FINAL REPORT OF THE COMMISSION OF INQUIRY INTO GASOLINE PRICING IN MANITOBA 1987

Manitoba

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FINAL REPORT

OF THE

COMMISSION OF INQUIRY INTO GASOLINE PRICING IN THE PROVINCE OF MANITOBA

Submitted to

The Honourable Alvin H. Mackling, Q.C.,
Minister of
Consumer and Corporate Affairs,
Province of Manitoba,

by Dr. Costas A. Nicolaou, Commissioner

August 12, 1987

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August 12, 1987

The Honourable A. Mackling, Q. C.,
Minister, Consumer and Corporate Affairs,
Province of Manitoba

Dear Sir:

In fulfillment of the requirements of Order in Council No. 295 dated 26th March, 1986, I respectfully report herewith on matters pertaining to the Manitoba Gasoline Market.

Respectfully submitted,

Costas A. Nicolaou
Commissioner

CAN/jk
encl.

TERMS OF REFERENCE OF THE COMMISSION
AS PER
ORDER IN COUNCIL NUMBER 295/26-03-1986

The Commission was appointed to investigate and report upon:

a) the relationship between retail gasoline prices in Manitoba and Manitoba or world crude oil prices, and

b) what measures could be taken by the Manitoba government to ensure that retail gasoline prices in Manitoba are adequately reflective of world crude oil prices

c) factors affecting retail price differentials between the Winnipeg retail market and other market areas in Manitoba

d) what regulatory powers the Province has or should have in relation to gas and oil and related products.

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PREFACE

The Commissioner thanks the Minister, Deputy Minister and the Staff of the Department of Consumer and Corporate Affairs of the Government of Manitoba for their continuous support and cooperation during the preparation of this report.

Thanks are also due to the various Government Departments and Agencies which provided data used in this report.[1]

The Commission wishes to thank the executives of the major oil companies for their cooperation and for the time devoted to meetings and to answering the questionnaire sent to them; it also thanks all other individuals, firms and organizations which responded to its circular.

Finally, the Commissioner thanks Mr. Ted Tomchak, research assistant to the Commission, Mr. C. Davis, programmer, Mr. S. Kousouris, Mr. X. Kha, Mr. Frank Van Haute, assistants, and the staff at University College for their help and cooperation.

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[1] See Chapter 1 for data sources.

ABSTRACT

The Commission, headed by Dr. Costas A. Nicolaou, was appointed in March 1986 with the mandate to investigate and report upon Manitoba retail gasoline prices and their responsiveness to crude oil costs, as well as upon matters pertaining to the regulatory powers of the Province of Manitoba in relation to gasoline and related products.

In summary, the Commission's main findings and recommendations are:

1. **Winnipeg prices [1] have not fully reflected reductions in crude oil costs in 1986.** (See Figures 11, 21, 22 and 26). This situation is estimated to have cost the average motorist $35-50 per year. At the Provincial level, the losses to retail buyers have been estimated at $410,000 weekly, or almost $1,700,000 monthly, from January 1986 to April 1987.

2. **The losses to Manitobans during 1986 are not an isolated event.** They are just one example of the lack of effective competition that existed before that, and that is continuing to result in higher gasoline prices regardless of variations in the price of crude oil. From January 1986 to March 1987, for example, this **ongoing lack of competition has cost Manitoba retail buyers at least another 2 c/l**, which is **additional to the above loss**, and which would have occured regardless of the fall in crude prices (see notes to Figure 50). This loss translates into approximately $460,000 weekly, or almost $2,000,000 every month.

3. The losses described above point to the **need to improve the Manitoba market in terms of 'local market conditions'**, i.e., in terms of price competition. Improvement is needed in order **to ensure** continuously **competitive** retail **prices** (such as those in Figures 17 and 18) **rather than** occasional and sporadic **price-wars**, which are an indication of price control rather than competition (as in Figure 47). It is also needed in order **to prevent recurrence of prices unresponsive to costs** with losses to Manitoba consumers, as in 1986. **Failing that improvement, the Commission recommends that regulation be seriously considered.**

4. **Wholesale gasoline prices to large independent resellers** in Manitoba have been fairly **competitive** for some time now (see Figures 4 and 9), but for greater price competition to occur **these** competitive **wholesale prices must be made available to smaller resellers and other users as well.**

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[1] And, by implication, rural and northern Manitoba prices.

To achieve this result, it is **recommended** that a private **Agency** be hired, or a government Agency be set up, **to buy gasoline from existing competitive sources,** and **to resell it,** at a single competitive F.O.B. price, **to any reseller, farmer, or commercial/industrial user**. This would **bring** to Manitoba **competitive wholesale** prices **like** those **in Minnesota and North Dakota** where markets are driven mainly by international forces from as far as Europe. (See Figures 33, 30 and 9).

5. **Competitive wholesale prices will not result in lower retail prices unless retail margins are kept at competitive levels** (see Figures 24, 25; Tables F1, F2). To achieve this, it is **recommended that**

   a) the **government set up** a small number of Winnipeg **gasoline stations and lease them to** independent **resellers willing to resell** gasoline **at a competitive retail margin** over competitive wholesale prices, and

   b) the proposed **Agency sell gasoline to anyone** in the Province **using it in bulk or willing to resell it at a competitive margin** over their cost.

6. **These recommendations are expected to benefit users in both the city** of Winnipeg **and in rural and northern areas** in the following manner:

   a) City of Winnipeg prices will be lower.

   b) Farmers, transport companies, other bulk users and Government Departments will have access to competitively priced wholesale gasoline should they find the current prices they pay to be higher.

   c) Both rural and northern areas of the province may benefit with lower retail prices, even if the current city-rural and south-north price relationships are not changed. This may happen if either the industry responds to competition by lowering the wholesale prices to dealers, or if these dealers are willing and able to purchase gasoline from the Agency.

   If lower retail prices do not occur through either of these ways, then native bands and other groups may find it to their advantage to develop their own retail facilities, supplied by the Agency.

7. **The above measures, once successful for gasoline, can be duplicated for other oil products.**

EXECUTIVE SUMMARY

1. TERMS OF REFERENCE

The Commission was established in March, 1986 amid concerns that retail gasoline prices in Manitoba were not fully responding to lower crude oil prices. Its terms of reference included investigation of: the relationship between world crude oil prices and retail gasoline prices in Manitoba; measures that could be taken to ensure that retail gasoline prices adequately reflect crude oil prices; factors affecting retail price differentials within the Province; and the government's regulatory powers with respect to petroleum product prices.

2. INTRODUCTION TO FINDINGS

2.1 Winnipeg Market Not Fully Competitive

The data confirms that **there was indeed cause for concern in 1986; Winnipeg prices [1] did not fully reflect reduced crude costs** [2] in 1986, and in fact have behaved quite sluggishly in that period, while other Canadian city prices appear to have responded more fully. This happened despite the fact that, historically, Winnipeg prices were not far out of line with other centres, and were in fact usually lower.[3] **This finding is supported from at least five sources:**

1. **Monthly data** from Statistics Canada as shown in **Figure 11**, indicate that while Winnipeg prices stood quite favourably in relation to the Canadian average from 1980 to 1985, the city's relative position deteriorated substantially in 1986.

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[1] And, by implication, rural and northern Manitoba prices.

[2] The highlighted parts of the text are intended to provide a "bird's eye view" to a reader wishing to identify the more salient points.

[3] As will be seen below (Section 2.3), this does not necessarily mean that all was well with the Manitoba market before 1986; comparison of Winnipeg prices with those of markets exhibiting effective competition (defined in section 1.3.2 of the main body of the report) shows that the Winnipeg gasoline market is suffering from an ongoing problem of less than effective competition.

2. **Weekly data since 1985,** in **Figure 26,** also show that Winnipeg retail prices behaved sluggishly in 1986 and in the first quarter of 1987, and thus became much higher than the Canadian average, whereas in 1985 they stood in line with it.

3. **Winnipeg wholesale prices,** as shown in **Figures 26 and 42,** did not fully reflect lower crude costs in 1986 and the first quarter of 1987.

4. **A simple model** which translates lower crude oil prices into expected reductions in retail gasoline prices also shows, in **Figures 21 and 22,** that Winnipeg retail gasoline prices did not fully reflect reduced costs of crude oil.

5. **Finally, comparison with prices of U.S. mid-west cities** (Minneapolis and Chicago) also shows that Winnipeg's prices did not fall as much as these U.S. prices in response to lower crude costs.

This lack of full response to lower crude prices is not explainable by offsetting changes in other market factors. There appears, therefore, to be no other conclusion than that **this development is abnormal and its recurrence must be prevented.**

2.2 User Losses from Insufficient Price Response

It is useful to estimate the additional amount by which Winnipeg retail prices should have fallen from January 1986 to March 1987 if the city were to retain its previous relative position. Using the first four of the above sources, a remarkably uniform result is observed: **Winnipeg retail prices should have fallen by an additional average amount ranging between 1.43-2.02 c/l.** [4] **For a motorist consuming 2400 litres a year, the annual loss is approximately $35-50. For larger commercial and agricultural users, the loss would obviously be greater** [5] **also spreading further into other product costs. At the provincial**

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[4] The average amount Winnipeg prices should have fallen as indicated by the five sources is as follows: the long-term monthly data suggest an additional 1.73 c/l; the weekly data indicated an additional 1.80-1.82 c/l was required; the crude oil tracking model revealed a 1.79 c/l (using a 10-week crude-retail pump lag) and a 2.02 c/l deficiency (8-week lag); and the wholesale price data indicates Winnipeg prices were higher by 1.43 c/l (the U.S. data indicates 3.77 and 5.47 c/l deterioration relative to Chicago and Minneapolis respectively, for the short period that comparisons are possible). Thus, four of the six calculations above lie between 1.73 c/l and 1.82 c/l, a rather rare and enviable occurrence for research results (the figures for U.S.A. cities will be commented upon later).

[5] To the extent that prices to some members of these categories of

level [6] the total loss to all retail buyers of gasoline is estimated at approximately $410,000 weekly, or almost $1,700,000 every month. [7]

2.3 Ongoing Problem of Lack of Competition: Need for Action

The data in Figures 11, 26, 42, 21 and 22 also show that, by **March 1987,** prices in other cities had risen in response to higher crude prices while Winnipeg prices had remained constant; consequently, **the city's historical position has been restored.**

One might, therefore, **conclude that no action is necessary** under the circumstances. **Such a conclusion would be in error, however, for the following reasons:**

First, neither the deterioration nor the restoration of the city's position has been explained on the basis of competitive cost and demand factors; this makes these developments unnatural and points to the need for permanent correction of non-competitive market conditions, to avoid recurrence of losses such as those of 1986.

Second, while the circumstances of the Commission's appointment centered around developments in 1986, one of the Commission's findings is that the Manitoba market can be permanently improved in terms of competition. More specifically, comparisons with both recent[8] and less recent[9] competitive wholesale and retail prices indicate that benefits from the Commission's recommendations are still to be reaped even as of March 1987, when the relative position of the city of Winnipeg in the spectrum of Canadian prices has been restored. This simply means that **the 1986 experience is actually only one example of lack of effective competition in the Manitoba market.** [10] To correct this situation, **the recommended measures should be taken to ensure**

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buyer did not fall.

[6] Given an average weekly retail consumption of 23 million litres in Manitoba, and assuming constant city/rural and south/north price differentials.

[7] Using 1.78 c/l as proper reduction in the Winnipeg price, for 1986 and the first quarter of 1987. The number 1.78 is the middle of the narrower range mentioned in footnote no. 4 (1.73+1.82/2=1.78 c/l), or, alternatively, the average of values in that range (1.73, 1.79, 1.80 and 1.82), and almost coincides with what the model predicts the price should have fallen by (1.79 c/l using 10 week lag)!

[8] As of the end of March, 1987.

[9] From January 1986 to March 1987.

[10] The term is defined in Chapter 1, section 1.3.2

that, in the future, effective competition rules the market, even if these measures do not result in lower prices at the specific time of their implementation. [11] **This is to ensure that continuous competition rules and no further lapses occur,** particularly since the high costs to users from lack of competition are not recoverable in any practical sense.

In more detail, the data show that if the measures recommended in this report had been in place as of January 1986, Manitoba prices for regular leaded gasoline would have been lower on average by 2.30 c/l in 1986 and first quarter 1987 if the recommended Agency simply always bought from the rack; or lower by 3.93 c/l if the Agency was buying from Grand Forks and incurring a generously overestimated transport/storage cost of 2 c/l; or lower by 4.73 c/l if the Agency bought at prices that large resellers bought from refiners in the Prairies; or lower by 5.51 c/l if the Agency bought always from the cheapest source of the three. The actual prices that would have ruled if the Agency always bought from the cheapest source are illustrated in Figure 50. Moreover, **implementation of the above recommendations would have lowered the Winnipeg city price of regular gasoline by at least 2 c/l, even as of March 27, 1987, when the city's position in the Canadian market had been restored.** [12]

It appears, then, that even after restoration of the city's relative position there is still room for improvement in Winnipeg's prices if the recommendations are adopted. This points to the fact that the lack of effective competition in the Manitoba market is not a phenomenon of 1986, but an ongoing problem in this market.

The ongoing problem of lack of competition in the Manitoba gasoline market is brought closer to the surface when one compares the amount by which prices could be reduced on average by the recommended regime with price reductions expected on the basis of historical relations (price differentials, and the relation between crude and retail price in 1985). As already mentioned in section 2.1, Winnipeg prices were expected to fall by an amount ranging from 1.43-2.02 c/l and, for most of the calculations, from 1.73-1.82 c/l, if the city's historical position and cost-price relations were to be maintained. However, if the recommendations had been in place in the same period, prices would have been lower by 2.30-5.51 c/l, depending on the source of supply used by the Agency recommended in this report (that is, depending on the efficiency with which the Agency could seek the cheapest source).

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[11] Recent concerns over the Iran-Iraq war and the associated threat to oil tankers in the Persian Gulf have raised crude oil and oil product prices. As this report is being completed, Grand Forks racks may be temporarily higher than Winnipeg wholesale prices, as the latter are less responsive to international forces, and therefore may not yet reflect higher crude and oil product prices.

[12] This may be seen from the following illustration. The apparent margin for the option of imported gasoline from Grand Forks was 8.93 c/l for that date. About five c/l of this margin would go to the retailer; a generously overestimated transport/storage cost of 2 c/l is then applied to arrive at total charges of 7 c/l over wholesale, leaving at least 1.93 c/l for price reduction at retail. In fact, the amount by which unleaded gasoline prices would be lowered if the recommendations were implemented on that date is about 4 c/l, i.e., almost double the amount in the text because of the fact that wholesale prices of leaded and unleaded gasoline are about equal in the United States, while ex-tax retail prices in Manitoba are about 2 c/l higher for unleaded gasoline.

The fact that the recommended regime would bring prices lower than expected by historical standards reveals that these standards are not those of effective competition; rather, the Manitoba market is shown to have been suffering from less than effective competition even before the crude price fall.

As this report is being completed, the Manitoba retail market is experiencing occasional and scattered price-wars in the city of Winnipeg and elsewhere.[13] These, or any other, **price-wars are not satisfactory substitutes of continuously competitive prices.** Not only do these wars not last, but they may occasionally be followed by higher prices than before the war, to recover losses. Price-wars are not indications of competition, but of oligopolistic markets in which some participants have control over price (see Figure 47). Peculiar as it may sound, therefore, price wars are not preferable to continuously competitive retail prices.

Also, the Manitoba retail market is recently[14] experiencing more than usual price dispersions at the retail level; retail prices for regular leaded gasoline range from 46.3 c/l to 47.7 c/l. This price dispersion may give impressions of genuine robust competition at retail. However, even if this phenomenon is optimistically interpreted as evidence of competition, it can only mean competition of very little force, as the wholesale prices that branded dealers have to pay effectively set (along with any reasonable branded dealer margins) a non-competitive lower limit to retail prices in the first place.

In summary, current appearances are deceiving and action is still needed. This action must take place **in two areas: wholesale prices** must become more competitive, **and retail margins** must reflect costs and competitive profit levels. Competitive wholesale prices will prevail if Grand Forks or Minneapolis gasoline become effective alternatives to Manitoba supplies. Competitive retail margins will be obtained if a few independent dealers choose to mark up prices by such amounts.

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[13] Examples are the Marion St. price-war, and the Highway no. 1 war (between Wpg and Falcon Lake).

[14] Late July and early August 1987.

The recommendations of the Commission are intended to achieve these two effects in the Manitoba gasoline market on a permanent basis.

3. CERTAIN INDUSTRY POSITIONS NOT PERSUASIVE

The Commission finds itself in agreement with a number of general concerns and positions expressed by the oil industry,[15] but it has not been fully persuaded by certain industry views on specific issues. Below are brief responses to views on certain specific issues studied in this report.

1. **Industry's View:** Markets for crude oil and gasoline are independent, and changes in crude costs are not necessarily reflected in retail prices in the short-run.

   Commission's Response: **Figures 27 and 28** (for Chicago and Minneapolis respectively. See also Figures 17, 18) show that this contention is belied by competitive markets. In both Figures, the retail gasoline price moves in remarkable unison with the wholesale (rack) price below it, and they both move together with spot gasoline prices in New York harbour and with the spot price of crude oil.

2. **Industry's View:** Retail prices prevailing in Winnipeg just before the crude oil price fell in December 1985 were in fact at 'price-war' levels, and they therefore should not have been expected to fall by as much as otherwise.

   Commission's Response: **Figure 11** shows that price-war periods did produce substantial 'dips' in Winnipeg prices compared to the Canadian average (as in the second half of 1982, January 1983, and second half of 1984). But there is no such 'dip' in the Winnipeg price in the second half of 1985.

3. **Industry's View:** Crude cost savings are needed to restore refiners' profits, which have been low during the 1980's due to reduced product demand.

   Commission's Response: Low refining profits are not due to unhealthy apparent margins between revenues and crude costs: these margins have been relatively healthy since 1982[16] and have in fact increased since 1986, particularly for the Prairies,[17] as **Figure 2** shows. Low profits probably reflect unused refinery capacity, a problem that a competitive market would solve by reduction in capacity or by increased exports, not by withholding crude savings from retail and increasing apparent margins.

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[15] Though there may still be disagreement on the implications that the industry wishes to draw from these positions: see Chapter 1 of the main body of the report, for a full discussion.

[16] Except briefly in 1983, when reportedly a retail price-war extended to wholesale prices.

4. **Industry's View:** Retail prices in the U.S. are more responsive to crude price changes due to the use of LIFO inventory valuation, compared to the FIFO method used in Canada.

   Commission's response: When competition prevails differences in inventory valuation methods do not result in different responsiveness in retail prices. This was the case in Ontario while crude prices were falling and in the U.S. during the whole period. See **Figure 23,** showing Toronto's responsiveness being quite high, despite the FIFO method. It is, however, recognized that different valuation methods do result in different reported profits.

4. COMMISSION OBJECTIVES AND METHODOLOGY

The main objectives of the study are (a) to examine whether Manitoba retail prices reflected lower crude costs in 1986 and beyond, (b) to identify any weaknesses in Manitoba gasoline markets, (c) to recommend any government policies designed to improve these markets, (d) to examine regulation as an option for market improvement, and (e) to identify competitive alternative supply sources for the Manitoba retail market at the wholesale and retail level.

The analysis herein takes into account and adjusts for a number of complicating factors.[18] It also takes account of and responds to positions and claims of the industry on various issues.[19]

Data and analysis in this report concentrate mainly on the city of Winnipeg, but the recommendations are expected to benefit both the city and northern/rural users of gasoline.[20]

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[17] Indicating that, indeed, crude savings were withheld.

[18] These include vertical integration; joint products and costs; many user categories and different prices of gasoline to these users; many locations, and associated price differentials; various units of measurement; and past relations used as bench-marks.

[19] These positions have been expressed in industry submissions, press reports, and replies to the Commission's questionnaire to the oil companies.

[20] Though the benefits to rural and northern retail users may prove more difficult to reap, making regulation a serious alternative.

The study makes it a point to contrast sharply the concept of effective competition[21] and associated prices with the concepts of occasional and sporadic price-wars and that of oligopolistic rivalry. The latter are often mistaken for true effective competition, when in fact they both are indicators of non-competitive markets.

Analysis in this report is conducted by examination of the basic components of the oil industry, and the associated markets and prices. The different markets that can affect retail outcomes are examined separately.

Most of the analysis seeks to uncover significant aberrations from past relations and patterns as a consequence of changing crude prices. This methodology assumes that the pre-1986 relationships between crude oil costs and retail gasoline prices are 'normal', and does not question them.

Finally, while the analysis herein discusses the probable reasons for non-competitiveness of Manitoba's wholesale and retail gasoline markets, and the probable reasons for greater competitiveness of such markets as Toronto, Grand Forks, Minneapolis, Buffalo, New York and Rotterdam, it should be noted that this discussion is not directly related to the recommendations of the Commission. In fact, the discussion on reasons for competitiveness or non-competitiveness could be disposed of without harm to the recommendations of this report.

The reason for this is that the 'market improvement' approach adopted for the recommendations consists of 'implantation' of agents in both the wholesale and retail market, rather than an attempt to change the behaviour of current market participants directly. These implanted agents would not appear by themselves in the Manitoba market, but are brought in with a set of incentives such that they behave competitively, irrespective of how the others in the market behave or react to them. The success of the recommended measures therefore, does not depend on whether this report has provided a definitive answer as to the factors making Manitoba markets less competitive, or other markets more competitive; rather, the success of the recommended measures is more a matter of proper logistics and of proper response to possible predatory behaviour from other market participants, once these measures are in place.[22]

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[21] Defined in Chapter 1 below.

[22] On this, please see Appendix D on the Elaboration of Recommendations.

5. BACKGROUND TO THE RECOMMENDATIONS

5.1 Crude Oil Markets Not Affected by Local Producers

The crude oil market in both Canada and the U.S. is subject to strong international forces.[23] **Figure 3** shows that Canadian posted prices follow fairly faithfully the movements of spot crude oil markets, particularly since January 1986. Therefore, **there is little the Province can do about the price of crude oil; but a more limited objective, namely ensuring that wholesale and retail prices reflect crude costs, is both realizable and desirable.**

5.2 Wholesale Not Fully Competitive: Alternatives Needed

While Mid-west American wholesale markets for refined products are subject to international market forces, the Canadian wholesale market in general is subject to less competition due to natural oligopoly conditions (small market, mostly land-locked, capital-intensive industry). Refiners do appear to compete for the business of large independent resellers. See Figure 4. Small independent retailers, however, have to deal with a small number of alternative local suppliers and in order to expand their options these independent buyers would have to be knowledgeable in importation laws, transportation and storage procedures, costs and facilities, able to buy bulk product quantities and able to access substantial credit.

All these requirements are rather difficult to satisfy in the Manitoba market, and as a consequence competition at the wholesale level is limited. It is therefore **advisable to adopt measures that would enhance effective competition [24] at the wholesale level.**

Figures 33, 29, 30, 27 and 28 show that mid-west U.S.A. wholesale markets are good examples of effective competition as indicated by their prompt and complete response to crude oil prices and oil product prices. Therefore, **Grand Forks, N.D, (or Minneapolis, Minn.) being close to Winnipeg, could conceivably be used as a source of imports, by a commercial agency, which would enhance competition at the wholesale level by making competitive wholesale prices [25] available to all**

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[23] This does not imply that the world crude oil prices are determined in an effectively competitive context; it only means that any non-competitive elements in those prices are not under control of Canadian producers.

[24] The term is defined in Chapter 1 of the report.

[25] Competitive prices, of course, cut both ways: it is conceivable that these prices may at times be higher than the more sluggish less competitive wholesale prices of major oil companies in Winnipeg, but this will only be a brief occurrence. On average, competi-

buyers.[26]

5.3 Retail Winnipeg Market Needs Price Competition

By all appearances, this market looks competitive, but closer examination reveals **barriers of entry and exit, at least for those participants likely to engage in independent price competition.**

Entry and exit may be easy for branded dealers, who could lease to use assets and equipment of oil companies; but price competition by these dealers could not be substantial, given their small per litre margin. There is an implicit price floor in this segment of the market by virtue of the fact that branded dealers cannot independently price below their wholesale acquisition price, which is usually about 3.5 c below retail ex-tax. This floor applies to at least 65% of all retail outlets in Winnipeg (outlets of major oil companies).

Entry may also be easy for large independents with sufficient financial backing of their own, sufficient knowledge of supply sources and access to storage facilities; but unless they are new in the market and attempt to carve out a share of it, not much should usually be expected of them except, perhaps, non-price competition (coupons, etc). This is understandable, given that their share is large enough, therefore satisfactory in the first place; moreover, a lower price set by these independents would unsettle other participants, whose losses from that action would be large and difficult to bear, leading them to counter-action, with price-wars as result.

There remain the small independent resellers who would be most likely to compete on price, since their small share of the market is bound to rise substantially with lower price, while participants other than those in the immediate vicinity may not even detect the effect of this lower price on their total sales (particularly if the market is large). But entry is not easy for this category: the capital required to set up a service station is in the area of three hundred thousand dollars[27] and the expertise necessary for service station operation is not insubstantial. For example, knowledge of alternative supply sources is useful but not easily available.

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tive wholesale from Grand Forks was lower than both Wpg racks and wholesale prices to large resellers for the period that data was available and comparisons were relevant (1986-87).

[26] Large Wpg independents seem to enjoy prices comparable to the Grand Forks racks, but small independents must buy at or above the Winnipeg rack, due to volume criteria. See Figure 9.

[27] Preliminary internal government data.

Neither is it easy for a small operator to 'strike deals' with local refiners that would secure him/her wholesale prices comparable to those enjoyed by larger resellers who buy large volumes; his/her margin, and consequently the ability to drop prices, is therefore limited.

Moreover, the risk of not being able to recover investment costs upon exit is real for a small operator, and is exacerbated by the small size of the market: it is easy to make a mistake in the choice of location.

Even if entry barriers and other risks are overcome by a small independent, he/she may decide to be a price-follower, since price-aggressiveness can be quite costly: the larger participants can withstand a price-war for much longer than he/she can.

In summary, then, the oil industry's retail sector is one in which numbers are large and entry and exit is easy only for those categories of retailers that must, or do, behave as price followers.[28] This type of market structure is not close to effective competition, despite appearances to the contrary.

A consequence of this relative lack of competition can be observed in the retail margins enjoyed by large independent resellers in Winnipeg since 1985; these margins were substantially higher than comparable margins elsewhere[29] even after adjustments for different volumes of sales per station.[30] Moreover, these margins were well above cost figures for the operation of gasoline stations, as supplied by the companies in submissions to the Restrictive Trade Practices Commission.[31]

It follows that to promote effective competition at the retail level one needs measures and policies that render entry, exit and price competition as easy and relatively equally risky for at least a few small independents as it is for large independents and for majors (through branded dealers).

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[28] Following a price that has as effective floor the wholesale price to branded dealers plus the branded dealer margin of about 3.5 c/l.

[29] 9.73 c/l in Wpg versus 4.38 c/l in Toronto (Figures 24 and 25), 4.90 c/l on average for the U.S.A. in November 1986 (Table F2), 4.98 c/l for Chicago in 1983-86, and 3.66 c/l for Minneapolis in 1983-86 (Figures 19 and 20).

[30] See Table F1.

[31] Costs as submitted by Texaco, adjusted for volume and for inflation since the submission, were 4.11 c/l.

6. RECOMMENDATIONS: THEIR RATIONALE AND BENEFITS

'Why Regulation Not Advisable Except As Last Resort'

Regulation of gasoline and related product markets **by means of hearings and the usual process of regulatory bodies** is generally **not advisable.** This is because today's crude oil and gasoline markets are subject to continuous change, making regulation impractical and introducing distortions, since it will not be possible to adjust prices quickly enough. These difficulties are compounded by the fact that gasoline is produced jointly with other products subject to varying conditions of demand, and by the general difficulties, inflexibilities and conservative approach characterizing the regulation process. Regulation would be effective in industries where costs are mainly capital overhead, and fairly constant over time, but it would not be desirable to apply it to the oil industry, as even those who have the experience state.[32] Moreover, it may become necessary to regulate not only retail but also wholesale prices,[33] and this might be rather difficult, given the fact that gasoline is produced outside the Province.[34]

The findings of this Commission regarding the competitive nature of wholesale prices in N. Dakota and Minnesota make it possible to apply **another form of regulation,** which would be based on these prices and would not require hearings and other associated procedures of conventional regulatory bodies. More specifically, one could take the lowest of the Grand Forks and Winnipeg wholesale prices, add transportation costs and a competitive retail margin, and regulate retail prices on this basis. Only monitoring of Winnipeg and Grand Forks wholesale prices and Winnipeg retail prices would be required in this instance of regulation, as well as a decision on how often to change the regulated price, **a rather favourable case for this form, *prima facie*.**

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[32] See, for example, the testimony of the Nova Scotia Public Utilities Board Representative before the Standing Committee of Crown Corporations Relating to Gasoline Pricing in New Brunswick, as reported in the December 1986 report of that Committee, page 26.

[33] The reason is that with those retail outlets purchasing from major oil companies under 'arms length' arrangements, regulation could result in their having to sell at retail prices that would not cover costs of acquisition (wholesale prices charged to them by the majors are only 3.5 c/l below current retail). The regulatory authority would then possibly find it necessary to regulate wholesale price levels to these dealers.

[34] And obviously wholesale prices are in effect determined outside provincial boundaries. Even the sales contracts could conceivably be written in locations outside the province (refinery locations, for example), making it more difficult to regulate the respective prices.

The Commission nevertheless would still advise the market improvement route, recommended in no. 2 below, as a better and preferred alternative, and reservation of the regulatory route as last resort.

There are at least two reasons for this. First, regulation of this form would have to be based on a rationale, namely, that the market in North Dakota or Minnesota could easily be duplicated in Manitoba if only effective competition would prevail; therefore, the regulatory rule would be presented as a shortcut to this result. This rationale is subject to the rather uncomfortable criticism that it begs the question of whether in fact the markets are similar enough, from all points of view besides competition, and therefore whether regulation of this form is appropriate. The alternative view could be expressed that competition levels are the same in both markets, but other factors complicate the comparison. Proceeding to regulate on this basis, without hearings to take the companies' views into account, might be viewed as heavy-handed interference in markets, without hard proof that these markets are not competitive. Such a novel form of regulation may also run into problems from legal objections to its procedures.

Second, this form of regulation would not only have to force the price upon all market participants through legal coercion, but it might also run into the problem of needing to set wholesale prices and being unable to do so.[35] In contrast, the market improvement plan recommended below involves no coercion of anyone, but only the employment of optional market mechanisms and willing participants who would make effective competition and the associated prices a reality in the Manitoba market. Moreover, the plan is feasible.

It is of course recognized that if, for some reason or another, Grand Forks or Minneapolis cease to be the effective alternative supply points for gasoline, market improvement will not be feasible from those sources:[36] but, in that case, it will not be effective or acceptable to regulate on the basis of Grand Forks prices either. For example, if the Grand Forks racks rise above Winnipeg wholesale prices, it will not pay to import gasoline on the market improvement plan, but it will not pay to regulate on the basis of that price either. In another case, if the U.S.A. prohibits oil product exports the market improvement plan will not work; but regulation on the basis of Grand Forks prices when supply from that point is unfeasible will not be defensible either. Therefore,

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[35] See the two previous footnotes.

[36] Although it may be still possible to improve retail prices by using Canadian wholesale plus a competitive retail margin. It must be stressed that the market improvement plan contains a double correction to retail prices; one from lower wholesale, and one from competitive retail margins for independents. The second correction does not depend on the existence of such competitive wholesale alternatives as Grand Forks.

1. **While it is useful and necessary for the Government of Manitoba to have in place legislation empowering it to act in a regulatory role, the recommendation of this Commission on the matter of regulation is to avoid it, except as a last resort, for example if market improvement measures (recommended below) are attempted and not allowed to work.**

'The Government Should Provide a Mechanism Enhancing Competitive Pricing at Wholesale and Retail Level'

The general objective of the recommendations below is to improve the functioning of the wholesale and retail gasoline markets in Manitoba towards the goal of effective competition without coercing participants in these markets to set prices according to legal requirements, or to behave in any specified way.

More specifically, and in contrast to either form of regulation, these measures leave the current and future market participants to act as they themselves prefer in the market context, without legal, regulatory, or other forms of coercion imposed upon them. The recommendations do, however, attempt to make competitive wholesale prices available (through the recommended Agency) to anyone who wishes and is able to take advantage of them. They also make the entry to gasoline retailing as easy for a number of small operators as it is for larger participants, at the same time ensuring that the operators managing the recommended stations are satisfied to charge prices that pass the wholesale savings to the retail level. In summary, no legal, regulatory, or other coercive measures are suggested in these recommendations, nor is subsidization or targeted support by the government proposed. Any mechanisms or rules would exist as part of legal agreement made by willing participants, and would bind only the activities of these participants and no one else's.

This objective of improving the market should be generally acceptable in an economy in which the market is expected to do most of the work of resource allocation and distribution. More specifically, the major oil companies have already indicated to the Commission that policies towards effective competition are acceptable as long as they do not involve favoured treatment and subsidization by the government.

The suggested market improvement will ensure that, in the future, gasoline prices are tied to competitive standards and that no lapses can occur. Therefore,

2. **It is recommended that the Government of Manitoba take policy measures to enhance competition at the wholesale and retail level of gasoline markets in Manitoba. The following specific measures are recommended:**[37]

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[37] Subject to minor modifications that may be necessary to ensure that the suggested contracts, leases and agreements conform to current laws.

a) **Hiring, or establishing (if no private firm is available) a commercial Agency** with know-how in importation laws and regulations regarding gasoline. The objective of this firm would be to enter into short and long-term contracts with both domestic and U.S.A. suppliers of gasoline at competitive prices. It would also be expected to attempt negotiation with oil companies which have excess storage facilities for petroleum products and have indicated to the Commission that they are open for negotiation to lease such facilities.

The firm would be expected to make gasoline available, under commercial supply contract, to any retailer wishing to sell gasoline in the Province of Manitoba, and to any farmer or other firm entitled to use gasoline for business purposes.

The agency would charge its customers a uniform price comprising the lowest of the Grand Forks and Winnipeg average racks plus any invoiced delivery costs to the customer's location. The agency would be expected to make profit by purchasing below racks, since this appears to be common practice.[38]

Retailers' contracts with the agency would contain the provision that the final self-serve sales price ex-tax charged by the retailer to his/her customers should not exceed his/her c.i.f. acquisition cost plus a normal apparent margin.[39] This margin could be set at 1.5-2 c/l higher than that presently offered, on the average, to oil company branded dealers, and could perhaps be set higher than that for rural retailers operating in one-gas-bar locations, to compensate for lower volumes.[40] Retailers entering into agreements with the agency would be reported to the Department of Consumer and Corporate Affairs for monitoring purposes, along with their c.i.f. acquisition prices of gasoline and their apparent margin, if it differs from the standard one (for one gas-bar locations).

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[38] Data already presented in the report verify this with respect to the Winnipeg racks. Also, Grand Forks racks are quoted 'before prompt payment discounts'. Only actual trading experience, however, can settle the question of how much actual transaction prices are lower than the racks in Grand Forks.

[39] While this may appear to contravene the Competition Act, advice from the legal counsel of the Commission indicates that retail price control is of concern only when its intent is to reduce competition.

[40] Assuming a target volume is established for such operators, the apparent margin for them could be set higher than 1.5-2 c/l by the proportion that their volume falls short of the target.

Retailers entering into agreements with the agency and found to charge prices higher than justified by agreed-upon margins and prevailing gasoline taxes would be asked, in future dealings, to purchase gasoline on consignment basis only, so that the integrity of the wholesale-retail price relationship may be preserved.

b) **The Government of Manitoba should purchase**[41] **a small number of strategically located Winnipeg gasoline stations and lease them,** at rates covering fixed capital and long-term maintenance costs plus a reasonable profit. **Lessees should be station operators**[42] committed to selling self-serve gasoline at prices equal to racks currently charged by the agency plus a maximum margin of 1.5-2 c/l over the current 3.5 c/l average margin to branded retailers. These operators should not be required to sell solely the agency's gasoline; they should be free to purchase gasoline from anywhere they please.[43]

The lease conditions of such operators should be such that they could break the lease at no cost at any time, if they so wished.

The lease would be breakable by the Government only in cases of violation of lease or gasoline contract conditions.

3. **These recommendations are expected to benefit users in both the city** of Winnipeg **and in rural and northern areas** in the following manner:

a) City of Winnipeg prices will be lower.

b) Farmers, transport companies, other bulk users and Government Departments will have access to competitively priced wholesale gasoline should they find the current prices they pay to be higher.

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[41] Out of general funds, or preferably by temporarily increasing the gasoline tax by 1 c/l for a few months. This route is fully justified, since the ultimate benefits (which will be much higher than the initial setup costs; see Appendix D) will flow to gasoline purchasers only.

[42] Lessees of these stations need not be the operators themselves; the lessees could hire labour for whenever the station is operating.

[43] But their contract should contain some clause specifying that, should they decide to buy from elsewhere and charge a retail price over the specified one (as above) they would be required to return any excess revenues to the Government in the form of some charge.

c) Both rural and northern areas of the province may benefit with lower retail prices, even if the current city-rural and south-north price relationships are not changed. This may happen if either the industry responds to competition by lowering the wholesale prices to dealers, or if these dealers are willing and able to purchase gasoline from the Agency.

If lower retail prices do not occur through either of these ways, then native bands and other groups may find it to their advantage to develop their own retail facilities, supplied by the Agency.

4. **The above measures, once successful for gasoline, can be duplicated for other oil products.**

For an elaboration of the feasibility and long-term viability of these recommendations please see Appendix D below.

TECHNICAL SUMMARY

1. PART I: INTRODUCTION

1. This report was commissioned by the Minister of Consumer and Corporate Affairs of the Government of Manitoba in March 1986, when there was concern that retail gasoline prices in the Province were not following the downward trend in crude oil prices experienced since the end of November 1985. The Commission's terms of reference included an investigation of (a) the relationship between world crude oil prices and retail gasoline and related product prices in the city of Winnipeg and elsewhere in the Province of Manitoba; (b) measures that could be taken to ensure that retail gasoline and related product prices in Manitoba adequately reflect world oil prices; (c) factors affecting retail price differentials between the Winnipeg retail market and other market areas in Manitoba; and (d) the associated regulatory powers that the Government of Manitoba has or should have in relation to gasoline and related products.

2. Data for the Commission's research were collected from publications, commercial databases, Government Departments and Agencies, major oil companies and many other agencies.

   The Commissioner had informal contacts and meetings with representatives of the oil industry, and asked that a questionnaire be completed by the major oil companies. The Commission also wrote to various organizations and firms to invite comments and positions on the above questions.

3. The study does not make use of anecdotal evidence or informal suggestions and submissions. Rather, it examines and compares market outcomes by using mainly price data, and seeks to explain differences in such outcomes as they appear.

4. The main objectives of the study are (a) to examine whether Manitoba retail prices reflected lower crude costs in 1986 and beyond, (b) to identify any weaknesses in Manitoba gasoline markets, (c) to recommend any government policies designed to improve these markets, (d) to examine regulation as an option for market improvement, and (e) to identify competitive alternative supply sources for the Manitoba retail market at the wholesale and retail level.

5. The analysis herein takes into account and adjusts for a number

of complicating factors.[1] It also takes account of and responds to positions and claims of the industry on various issues.[2]

6. Data and analysis in this report concentrate mainly on the city of Winnipeg, but the recommendations are expected to benefit both the city and northern/rural users of gasoline.[3]

7. The study makes it a point to contrast sharply the concept of effective competition[4] and associated prices with the concepts of occasional and sporadic price-wars and that of oligopolistic rivalry. The latter are often mistaken for true effective competition, when in fact they both are indicators of non-competitive markets.

8. Analysis in this report is conducted by examination of the basic components of the oil industry, and the associated markets and prices. The different markets that can affect retail outcomes are examined separately.

9. Part of the analysis seeks to uncover significant aberrations from past relations and patterns as a consequence of changing crude prices. This methodology assumes that the pre-1986 relationships between crude oil costs and retail gasoline prices are 'normal', and does not question them.

10. While the analysis herein discusses the probable reasons for non-competitiveness of Manitoba's wholesale and retail gasoline markets, and the probable reasons for greater competitiveness of such markets as Toronto, Grand Forks, Minneapolis, Buffalo, New York and Rotterdam, it should be noted that this discussion is not directly related to the recommendations of the Commission. In fact, the discussion on reasons for competitiveness or non-competitiveness could be disposed of without harm to the recommendations of this report.

11. The reason for this is that the 'market improvement' approach adopted by the recommendations consists of 'implantation' of agents in both the wholesale and retail market, rather than an

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[1] These include vertical integration; joint products and costs; many user categories and different prices of gasoline to these users; many locations, and associated price differentials; various units of measurement; and past relations used as bench-marks.

[2] These positions have been expressed in industry submissions, press reports, and replies to the Commission's questionnaire to the oil companies.

[3] Though the benefits to rural and northern retail users may prove more difficult to reap, making regulation a serious alternative.

[4] Defined in Chapter 1 below.

attempt to change the behaviour of current market participants directly. These implanted agents would not appear by themselves in the Manitoba market, but are brought in with a set of incentives such that they behave competitively, irrespective of how the others in the market behave or react to them. The success of the recommended measures therefore, does not depend on whether this report has provided a definitive answer as to the factors making Manitoba markets less competitive, or other markets more competitive; rather, the success of the recommended measures is more a matter of proper logistics and of proper response to possible predatory behaviour from other market participants, once these measures are in place.[5]

12. It is useful to view the Canadian oil industry through its constituent parts: production of crude; the refining of crude into petroleum products; product marketing and distribution; and transportation and storage of both crude and products.

    When the industry is viewed in this way, it becomes apparent that a number of factors can affect the chain between crude oil at the wellhead and gasoline at the pumps.

13. Investigation of price differentials between Winnipeg and other market areas in the Province brings out the problems of data availability, low volumes, higher costs, and perhaps less competition at retail.[6] These are all fairly difficult to control and improve in a substantial way.

    The Commission has concluded that a possible way to bring lower retail prices to Manitoba market areas other than Winnipeg might be to make low wholesale prices accessible to all wholesale buyers of gasoline in the Province. Once this is achieved, retail prices in all areas would improve provided that reseller margins are kept low.

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[5] On this, please see Appendix D on the Elaboration of Recommendations.

[6] Though this last factor may work the other way, especially when the market is too small to sustain more than very few operators.

2. PART II: THE STRUCTURE OF THE CANADIAN OIL INDUSTRY

14. The sectors of the industry are related, yet unique with regards to levels of competition, concentration, structure and profit levels. For example, while the upstream sector has many participants and is located primarily in Western Canada, the refining sector is highly concentrated with plants dispersed across the country.

15. In the upstream sector, the top five companies produced 37% of the total production in 1985, a declining share (44% in 1975). The top twenty firms produced about 75% of total output, with the remaining production shared among several hundred smaller producers.[7]

Competition in the upstream sector is strong, due to the interrelationship with international crude oil markets. As a consequence, the price of crude as determined internationally is the effective ceiling for the Canadian upstream sector.

16. The refining sector of the Canadian oil industry is characterized by small numbers of participants. It is capital-intensive and, given its technology and the size of the Canadian market, oligopolistic in nature. The top four refiners controlled 63% of total refining capacity in 1986.[8] All refiners participate substantially in the marketing sector, and most are also involved in the upstream sector. The small Canadian market and the fact that operational efficiency requires relatively large refineries makes it impractical to aim for a larger number of refineries with the hope of achieving more competitive results.

17. Recent reductions in petroleum product demand have made it necessary for refiners to close down eleven refineries since 1980.[9]

The years 1982 and 1983 were reported particularly difficult by the major oil companies. Rates of return on average shareholders' equity fell below those of previous years by substantial amounts. It must be recalled that these results are for companies as a whole, rather than for refining alone.

Canadian refiners appear to have adjusted to lower demand conditions, though perhaps not fully as yet; In any event, data indicate that they have experienced fairly constant apparent margins in the period 1982-1985 and, moreover, their current margins are slightly higher.[10]

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[7] See Table A1.

[8] See Table B3; including Irving Oil, the top five controlled 75% of total capacity.

[9] See Table B2.

It is difficult to agree with the industry's suggestion that lower crude prices could legitimately be partially used to restore refiners' profits; if the industry's account is correct, refining sector profits in the 80's would have been low not because of low apparent margins, but because of high costs due to excess refining capacity. The competitive market response to lower long-term demand would be to adjust refining capacity so that the high costs may be reduced, or to seek other demand outlets (such as exports). The economic and non-economic pressures against refinery closures are recognized, but they do not give licence to ignore competitive market discipline.

18. The marketing and retail sector of the oil industry is characterized by large numbers of small participants which may be placed in four categories: Oil Company Owned and Operated outlets; Branded Dealers leasing from the Oil Companies; Large Independent Dealers; and Small Independent Dealers. Entry and exit appears relatively easy and painless and generally the sector appears competitive; but appearances are deceiving, as will be explained in the section dealing with retail gasoline markets.

3. PART III: UPSTREAM

19. Canadian crude oil prices in the 70's and 80's have been set by two different sources: originally by the policies of the federal government; and recently by the dynamics of international markets.

20. Since deregulation, international, rather than domestic, market forces determine the price of Canadian crude. Since about January 1986, the Canadian postings at Edmonton have generally followed the spot prices at Chicago, the chief North American export market. Crude costs, therefore, are determined not by

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[10] See Figure 1. The average apparent margin for Canadian refiners in 1982-1985 was 7.88 c/litre. At 8.71 c/litre, the Prairie refiners' margin was the second highest (after that of the Atlantic region refiners) for the whole period (see Figure 2). Since 1986, margins have increased to an average of 11.60 c/l for Canada and 13.11 c/l for the Prairies.

The three-state (Illinois, Minnesota and New York state) three-year (1983-1986) American refiners' approximate average apparent margin was 6.04 c/l.

By comparison, the Canadian Majors report the costs of refining a litre of gasoline at 2.5 to 3 c/litre.

Canadian producers but outside the country, and will be taken as externally given in this investigation.[11]

21. Recent developments in Edmonton postings of Canadian par crude and in North American spot crude oil prices are illustrated in Figure 3. It is clear from the Figure that it makes little difference which of the two crude oil prices one uses for analysis, but since some industry spokesmen prefer Canadian postings, we shall use these wherever calculations are necessary.

22. The dramatic drop in crude prices in 1986 has resulted in vastly lower crude acquisition costs for Canadian refiners. Crude cost is a major component of product prices, such as gasoline, at least in the long run.

23. The fall in refinery crude costs was clearly substantial; at $42 Cdn per barrel, crude costs account for at least 26 cents of the per litre pump price; [12] at $14 Cdn per barrel, crude costs account for only 9 cents per litre; while $20 per barrel results in crude costs of about 13 cents per litre at the pump.

24. Whether pump prices in Winnipeg actually fell with the expected timing and amount is one concern of this Commission; later in this report a tracking model will be used to help determine the proper cost effect of the fall in crude prices on the price of gasoline.

4. PART IV: WHOLESALE MARKETING

25. Refiner margins both during and before 1986 were not below historical averages, at least for Prairie refiners, if not for all Canadian refiners, and therefore corrections to rates of return should be expected from adjustments not to these margins, but to other variables. A corollary of this is that lower crude costs should have been followed by lower wholesale prices fully reflecting these lower costs. Instead, some of the crude savings were actually withheld, resulting in higher refiner margins since 1986.

26. Winnipeg posted (wholesale) rack prices of refiners originally followed the downward trend that other cities and regions experienced. However, since approximately March 1986, they remained fairly static while the Canadian average kept falling.

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[11] Though this does not necessarily imply that these costs are determined under conditions of effective competition.

[12] Assuming that apportionment of costs is according to quantities produced. See Appendix C.

This is shown in Figure 5.[13] Thus, while the Winnipeg racks were roughly equal to the Canadian average before March 1986 (higher by 0.05 c/l) they were, on average, 1.48 c/l above that average until at least March 1987.

Comparison of refiners' total[14] realized prices (for regular leaded) for the Prairies with the Canadian average also shows that Prairie refiners' wholesale prices did not follow the downward trend experienced by most Canadian regions after about March 1986.[15]

27. Import competition is not so pronounced for Prairie refiners because the Prairies (and certainly the Province of Manitoba) are a relatively small market, not accessible by large sea-vessel and not connected to pipeline networks through which a large number of jobbers would be able to transport products cost-effectively from major ports. Moreover, Winnipeg does not have major product storage facilities available to independent jobbers.

    There is, however, proximity to a competitive pipeline network in Grand Forks, N.D., and use of this alternative may be one way to apply competitive discipline in the Manitoba wholesale market.[16]

28. Competition at the wholesale level in Canada is limited not only because of the small numbers of refiners, but also by the fact that refiners own or operate 65% of retail outlets.[17] This allows them to dispose of most of their production through branded retail outlets, without having to compete for sales at the wholesale level.

    Refiners do compete in a more substantial manner for the business of large independent resellers; as a consequence, the prices offered to resellers are often much lower than prices to their own branded dealers.[18]

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[13] The Figure illustrates the Winnipeg racks (thin line) and the average of Canadian racks (medium line), along with the price of crude (thickest line).

[14] Average, to all categories of buyers

[15] Figure 6 illustrates.

[16] See Figure 33.

[17] See Table C2.

[18] See Figure 4.

This, however, does not mean that a small independent reseller would normally be able to strike equally advantageous 'deals'.

Another area from which some Canadian refiners face competition in Canada is product imports. This factor was reported operative in the Toronto market in 1986, and forced both wholesale racks and retail prices down to some extent.

29. While some exports of gasoline from Prairie refiners occurred at prices much lower than those available to branded dealers and resellers (see Table E3) in 1986, the amounts exported were only a small part (2-4%) of total Prairie refinery production (see Table E4). The significance of these exports is therefore small; the fact that they had to be carried out at such low prices mirrors the fact that Winnipeg wholesale prices did not respond as promptly and as much to crude price changes as the U.S. prices did.

30. In contrast to the limited competitive pressures present in the Manitoba wholesale market, gasoline buyers in the also land-locked U.S. mid-west are blessed with a fully developed transportation and product storage system which is accessible to a large number of participants. Consequently, refiners' rack prices in this area follow competitive wholesale product markets (such as that for N.Y harbour gasoline) and spot crude markets closely.[19]

Prairie refiners' wholesale prices to the reseller category respond sluggishly to such influences, though they have converged to the Grand Forks rack particularly since September 1986.[20] Prairie refiners' realized prices for regular leaded gasoline sold to resellers in 1986 and 1987 averaged slightly above Grand Forks for the period.[21]

31. The industry has indicated that the FIFO method of inventory valuation delays price reductions by the time necessary to consume old inventory acquired at higher prices. But when refiners are subject to competition and, in their words, they 'have to price into the market', (as was the case in the U.S. and in Ontario in 1986), wholesale price reductions will take place irrespective of the method of inventory valuation (FIFO or LIFO.[22]

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[19] see Figures 7 and 8.

[20] See Figure 9.

[21] Though at times the Grand Forks racks were substantially lower. See the section on retail markets.

[22] Figure 10 shows that Toronto refiners were subjected to pressure from Buffalo racks and imports therefrom, and responded with lower

What remains true, however, is that if Canadian refiners were using the LIFO method they would have recorded a different profit picture in 1986 than they did using the FIFO method.

5. PART V: RETAIL MARKETING

32. Before retail prices in various jurisdictions may be usefully compared, Federal and Provincial taxes on gasoline must be taken into account.

Among the Canadian jurisdictions taxing gasoline, the Province of Manitoba ranked fifth lowest in the dollar amount of taxation of unleaded gasoline, and shared the 5th-6th highest place (among thirteen jurisdictions) for leaded gasoline as of June 22, 1987.[23]

33. The results of comparisons in this part indicate (chapter 8) that Canadian taxes are not responsible for major price differentials between Canadian cities: Federal taxes are uniform across the country, and most Provincial taxes differ little from each other. Taxes do explain a good portion (currently about 7.7 c/l on average) of the differential between Canadian and U.S.A. prices, however.

34. The price comparisons over time (chapter 9) indicate a clear deterioration of Winnipeg's relative position in terms of prices ex-tax during 1986, with restoration in 1987. This deterioration is deemed both abnormal and unacceptable, since no obvious market changes have occurred in that period. Moreover, the 1987 restoration does not indicate that all is well now, since retail prices can be lower if competition is enhanced.

35. The inventory lag for Manitoba still appears close to that used in the interim report of the Commission; it is estimated as 62 days. Its importance, however, has diminished in a situation where oil prices do not exhibit strong movements.

36. A tracking model (chapter 10) calculates the cost-justified price for gasoline (based on bench mark values for 1985) and indicates that the actual retail price lay above the cost-justified level by 1.79 c/l on average for the whole period (assuming a 70-day lag) and by 2.02 c/l, when the lag was set to 56 days.

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racks and realized wholesale prices.

[23] See Table D1

37. Finally (Chapter 11), margins of Winnipeg resellers appear high in comparison to other cities and in comparison to reported costs, the differential not being fully attributable to different sales volumes. Wholesale prices to large independent resellers appear competitive, this leading to the conclusion that retail market conditions keep retail prices high. Such conditions include the risk associated with capital investment in retail marketing, as viewed by small investors in a thin market; barriers to entry such as knowledge, ability to secure low prices from refiners; and the smallness of the market itself.

6. PART VI: RECOMMENDATIONS

6.1 Background to the Recommendations

6.1.1 Crude Oil Markets Not Affected by Local Producers

The crude oil market in both Canada and the U.S. is subject to strong international forces.[24] **Figure 3** shows that Canadian posted prices follow fairly faithfully the movements of spot crude oil markets, particularly since January 1986. Therefore, **there is little the Province can do about the price of crude oil; but a more limited objective, namely ensuring that wholesale and retail prices reflect crude costs, is both realizable and desirable.**

6.1.2 Wholesale Not Fully Competitive: Alternatives Needed

While Mid-west American wholesale market for refined products are subject to international forces, the Canadian wholesale market in general is subject to less competition due to natural oligopoly conditions (small market, mostly land-locked, capital-intensive industry), though refiners appear to compete for the business of large independent resellers. See Figure 4. Small independent retailers, however, have to deal with a small number of alternative local suppliers and in order to expand their options, these independent buyers would have to be knowledgeable in importation laws, transportation and storage procedures, costs and facilities, able to buy bulk product quantities and able to access substantial credit.

All these requirements are rather difficult to satisfy in the Manitoba market, and as a consequence competition at the wholesale level is limited. It is therefore **advisable to adopt measures that would**

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[24] This does not imply that the world crude oil prices are determined in an effectively competitive context; it only means that any non-competitive elements in those prices are not under control of Canadian producers.

enhance effective competition [25] at the wholesale level.

Figures 33, 29, 30, 27 and 28 show that mid-west U.S.A. wholesale markets are good examples of effective competition as indicated by their prompt and complete response to crude oil prices and oil product prices. Therefore, **Grand Forks, N.D, (or Minneapolis, Minn.) being close to Winnipeg, could conceivably be used as a source of imports, by a commercial agency, which would enhance competition at the wholesale level by making competitive wholesale prices [26] available to all buyers.** [27]

6.1.3 Retail Winnipeg Market Needs Price Competition

By all appearances, this market looks competitive, but closer examination reveals **barriers of entry and exit, at least for those participants likely to engage in independent price competition.**

Entry and exit may be easy for branded dealers, who could lease to use assets and equipment of oil companies; but price competition by these dealers could not be substantial, given their small per litre margin. There is an implicit price floor in this segment of the market by virtue of the fact that branded dealers cannot independently price below their wholesale acquisition price, which is usually about 3.5 c below retail ex-tax. This floor applies to at least 65% of all retail outlets in Winnipeg (outlets of major oil companies).

Entry may also be easy for large independents with sufficient financial backing of their own, sufficient knowledge of supply sources and access to storage facilities; but unless they are new in the market and attempt to carve out a share of it, not much should usually be expected of them except, perhaps, non-price competition (coupons, etc). This is understandable, given that their share is large enough, therefore satisfactory in the first place; moreover, a lower price set by these independents would unsettle other participants, whose losses from that action would be large and difficult to bear, leading them to counter-action, with price-wars as result.

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[25] The term is defined in Chapter 1 of the report.

[26] Competitive prices, of course, cut both ways: it is conceivable that these prices may at times be higher than the more sluggish less competitive wholesale prices of major oil companies in Winnipeg, but this will only be a brief occurrence. On average, competitive wholesale from Grand Forks was lower than both Wpg racks and wholesale prices to large resellers for the period that data was available and comparisons were relevant (1986-87).

[27] Large Wpg independents seem to enjoy prices comparable to the Grand Forks racks, but small independents must buy at or above the Winnipeg rack, due to volume criteria. See Figure 9.

There remain the small independent resellers who would be most likely to compete on price, since their small share of the market is bound to rise substantially with lower price, while other than those in the immediate vicinity, participants may not even detect the effect of this lower price on their total sales, particularly if the market is large. But entry is not easy for this category: the capital required to set up a service station is in the area of three hundred thousand dollars[28] and the expertise necessary for service station operation is not insubstantial. For example, knowledge of alternative supply sources is useful but not easily available.

Neither is it easy for a small operator to 'strike deals' with local refiners that would secure him/her wholesale prices comparable to those enjoyed by larger resellers who buy large volumes; his/her margin, and consequently his/her ability to drop prices, is therefore limited.

Moreover, the risk of not being able to recover investment costs upon exit is real for a small operator, and is exacerbated by the small size of the market: it is easy to make a mistake in the choice of location.

Even if entry barriers and other risks are overcome by a small independent, he/she may decide to be a price-follower, since price-aggressiveness can be quite costly: the larger participants can withstand a price-war for much longer than he/she can.

In summary, then, the oil industry's retail sector is one in which numbers are large and entry and exit is easy only for those categories of retailers that must, or do, behave as price followers.[29] This type of market structure is not close to effective competition, despite appearances to the contrary.

A consequence of this relative lack of competition can be observed in the retail margins enjoyed by large independent resellers in Winnipeg since 1985; these margins were substantially higher than comparable margins elsewhere[30] even after adjustments for different volumes of sales per station.[31] Moreover, these margins were well above cost figures for the operation of gasoline stations, as supplied by the companies in submissions to the Restrictive Trade Practices Commission.[32]

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[28] Preliminary internal government data.

[29] Following a price that has as effective floor the wholesale price to branded dealers plus the branded dealer margin of about 3.5 c/l.

[30] 9.73 c/l in Wpg versus 4.38 c/l in Toronto (Figures 24 and 25), 4.90 c/l on average for the U.S.A. in November 1986 (Table F2), 4.98 c/l for Chicago in 1983-86, and 3.66 c/l for Minneapolis in 1983-86 (Figures 19 and 20).

[31] See Table F1.

It follows that to promote effective competition at the retail level one needs measures and policies that render entry, exit and price competition as easy and relatively equally risky for at least a few small independents as it is for large independents and for majors (through branded dealers).

6.2 Recommendations: Their Rationale and Benefits

'Why Regulation Not Advisable Except As Last Resort'

Regulation of gasoline and related product markets **by means of hearings and the usual process of regulatory bodies** is generally **not advisable.** This is because today's crude oil and gasoline markets are subject to continuous change, making regulation impractical and introducing distortions, since it will not be possible to adjust prices quickly enough. These difficulties are compounded by the fact that gasoline is produced jointly with other products subject to varying conditions of demand, and by the general difficulties, inflexibilities and conservative approach characterizing the regulation process. Regulation would be effective in industries where costs are mainly capital overhead, and fairly constant over time, but it would not be desirable to apply it to the oil industry, as even those who have the experience state.[33] Moreover, it may become necessary to regulate not only retail but also wholesale prices,[34] and this might be rather difficult, given the fact that gasoline is produced outside the Province.[35]

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[32] Costs as submitted by Texaco, adjusted for volume and for inflation since the submission, were 4.11 c/l.

[33] See, for example, the testimony of the Nova Scotia Public Utilities Board Representative before the Standing Committee of Crown Corporations Relating to Gasoline Pricing in New Brunswick, as reported in the December 1986 report of that Committee, page 26.

[34] The reason is that with those retail outlets purchasing from major oil companies under 'arms length' arrangements, regulation could result in their having to sell at retail prices that would not cover costs of acquisition (wholesale prices charged to them by the majors are only 3.5 c/l below current retail). The regulatory authority would then possibly find it necessary to regulate wholesale price levels to these dealers.

[35] And obviously wholesale prices are in effect determined outside provincial boundaries. Even the sales contracts could conceivably be written in locations outside the province (refinery locations, for example), making it more difficult to regulate the respective prices.

The findings of this Commission regarding the competitive nature of wholesale prices in N. Dakota and Minnesota make it possible to apply **another form of regulation,** which would be based on these prices and would not require hearings and other associated procedures of conventional regulatory bodies. More specifically, one could take the lowest of the Grand Forks and Winnipeg wholesale prices, add transportation costs and a competitive retail margin, and regulate retail prices on this basis. Only monitoring of Winnipeg and Grand Forks wholesale prices and Winnipeg retail prices would be required in this instance of regulation, as well as a decision on how often to change the regulated price, **a rather favourable case for this form, *prima facie*.**

The Commission nevertheless would still advise the market improvement route, recommended in no. 2 below, as a better and preferred alternative, and reservation of the regulatory route as last resort.

There are at least two reasons for this. First, regulation of this form would have to be based on a rationale, namely, that the market in North Dakota or Minnesota could easily be duplicated in Manitoba if only effective competition would prevail; therefore, the regulatory rule would be presented as a shortcut to this result. This rationale is subject to the rather uncomfortable criticism that it begs the question of whether in fact the markets are similar enough, from all points of view besides competition, and therefore whether regulation of this form is appropriate. The alternative view could be expressed that competition levels are the same in both markets, but other factors complicate the comparison. Proceeding to regulate on this basis, without hearings to take the companies' views into account, might be viewed as heavy-handed interference in markets, without hard proof that these markets are not competitive. Such a novel form of regulation may also run into problems from legal objections to its procedures.

Second, this form of regulation would not only have to force the price upon all market participants through legal coercion, but it might also run into the problem of needing to set wholesale prices and being unable to do so.[36] In contrast, the market improvement plan recommended below involves no coercion of anyone, but only the employment of optional market mechanisms and willing participants who would make effective competition and the associated prices a reality in the Manitoba market. Moreover, the plan is feasible.

It is of course recognized that if, for some reason or another, Grand Forks or Minneapolis cease to be the effective alternative supply points for gasoline, market improvement will not be feasible from those sources:[37] but, in that case, it will not be effective or acceptable to regulate on the basis of Grand Forks prices either. For example, if the Grand Forks racks rise above Winnipeg wholesale prices, it will not pay to import gasoline on the market improvement plan, but it will not pay to regulate on the basis of that price either. In another case, if the U.S.A. prohibits oil product exports the market improvement plan will not work; but regulation on the basis of Grand Forks prices when supply from that point is unfeasible will not be defensible either. Therefore,

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[36] See the two previous footnotes.

[37] Although it may be still possible to improve retail prices by using Canadian wholesale plus a competitive retail margin. It must be stressed that the market improvement plan contains a double correc-

1. **While it is useful and necessary for the Government of Manitoba to have in place legislation empowering it to act in a regulatory role, the recommendation of this Commission on the matter of regulation is to avoid it, except as a last resort, for example if market improvement measures (recommended below) are attempted and not allowed to work.**

'The Government Should Provide a Mechanism Enhancing Competitive Pricing at Wholesale and Retail Level'

The general objective of the recommendations below is to improve the functioning of the wholesale and retail gasoline markets in Manitoba towards the goal of effective competition without coercing participants in these markets to set prices according to legal requirements, or to behave in any specified way.

More specifically, and in contrast to either form of regulation, these measures leave the current and future market participants to act as they themselves prefer in the market context, without legal, regulatory, or other forms of coercion imposed upon them. The recommendations do, however, attempt to make competitive wholesale prices available (through the recommended Agency) to anyone who wishes and is able to take advantage of them. They also make the entry to gasoline retailing as easy for a number of small operators as it is for larger participants, at the same time ensuring that the operators managing the recommended stations are satisfied to charge prices that pass the wholesale savings to the retail level. In summary, no legal, regulatory, or other coercive measures are suggested in these recommendations, nor is subsidization or targeted support by the government proposed. Any mechanisms or rules would exist as part of legal agreement made by willing participants, and would bind only the activities of these participants and no one else's.

This objective of improving the market should be generally acceptable in an economy in which the market is expected to do most of the work of resource allocation and distribution. More specifically, the major oil companies have already indicated to the Commission that policies towards effective competition are acceptable as long as they do

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tion to retail prices; one from lower wholesale, and one from competitive retail margins for independents. The second correction does not depend on the existence of such competitive wholesale alternatives as Grand Forks.

not involve favoured treatment and subsidization by the government.

The suggested market improvement will ensure that, in the future, gasoline prices are tied to competitive standards and that no lapses can occur. Therefore,

2. **It is recommended that the Government of Manitoba take policy measures to enhance competition at the wholesale and retail level of gasoline markets in Manitoba. The following specific measures are recommended:**[38]

   a) **Hiring, or establishing (if no private firm is available) a commercial Agency** with know-how in importation laws and regulations regarding gasoline. The objective of this firm would be to enter into short and long-term contracts with both domestic and U.S.A. suppliers of gasoline at competitive prices. It would also be expected to attempt negotiation with oil companies which have excess storage facilities for petroleum products and have indicated to the Commission that they are open for negotiation to lease such facilities.

      The firm would be expected to make gasoline available, under commercial supply contract, to any retailer wishing to sell gasoline in the Province of Manitoba, and to any farmer or other firm entitled to use gasoline for business purposes.

      The agency would charge its customers a uniform price comprising the lowest of the Grand Forks and Winnipeg average racks plus any invoiced delivery costs to the customer's location. The agency would be expected to make profit by purchasing below racks, since this appears to be common practice.[39]

      Retailers' contracts with the agency would contain the provision that the final self-serve sales price ex-tax charged by the retailer to his/her customers should not exceed his/her c.i.f. acquisition cost plus a normal apparent margin.[40]

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[38] Subject to minor modifications that may be necessary to ensure that the suggested contracts, leases and agreements conform to current laws.

[39] Data already presented in the report verify this with respect to the Winnipeg racks. Also, Grand Forks racks are quoted 'before prompt payment discounts'. Only actual trading experience, however, can settle the question of how much actual transaction prices are lower than the racks in Grand Forks.

[40] While this may appear to contravene the Competition Act, advice from the legal council of the Commission indicates that retail price control is of concern only when its intent is to reduce competition.

This margin could be set at 1.5-2 c/l higher than that presently offered, on the average, to oil company branded dealers, and could perhaps be set higher than that for rural retailers operating in one-gas-bar locations, to compensate for lower volumes.[41] Retailers entering into agreements with the agency would be reported to the Department of Consumer and Corporate Affairs for monitoring purposes, along with their c.i.f. acquisition prices of gasoline and their apparent margin, if it differs from the standard one (for one gas-bar locations).

Retailers entering into agreements with the agency and found to charge prices higher than justified by agreed-upon margins and prevailing gasoline taxes would be asked, in future dealings, to purchase gasoline on consignment basis only, so that the integrity of the wholesale-retail price relationship may be preserved.

b) **The Government of Manitoba should purchase**[42] **a small number of strategically located Winnipeg gasoline stations and lease them,** at rates covering fixed capital and long-term maintenance costs plus a reasonable profit. **Lessees should be station operators**[43] committed to selling self-serve gasoline at prices equal to racks currently charged by the agency plus a maximum margin of 1.5-2 c/l over the current 3.5 c/l average margin to branded retailers. These operators should not be required to sell solely the agency's gasoline; they should be free to purchase gasoline from anywhere they please.[44]

The lease conditions of such operators should be such that they could break the lease at no cost at any time, if they so wished.

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[41] Assuming a target volume is established for such operators, the apparent margin for them could be set higher than 1.5-2 c/l by the proportion that their volume falls short of the target.

[42] Out of general funds, or preferably by temporarily increasing the gasoline tax by 1 c/l for a few months. This route is fully justified, since the ultimate benefits (which will be much higher than the initial setup costs; see Appendix D) will flow to gasoline purchasers only.

[43] Lessees of these stations need not be the operators themselves; the lessees could hire labour for whenever the station is operating.

[44] But their contract should contain some clause specifying that, should they decide to buy from elsewhere and charge a retail price over the specified one (as above) they would be required to return any excess revenues to the Government in the form of some charge.

The lease would be breakable by the Government only in cases of violation of lease or gasoline contract conditions.

3. **These recommendations are expected to benefit users in both the city** of Winnipeg **and in rural and northern areas** in the following manner:

   a) City of Winnipeg prices will be lower.

   b) Farmers, transport companies, other bulk users and Government Departments will have access to competitively priced wholesale gasoline should they find the current prices they pay to be higher.

   c) Both rural and northern areas of the province may benefit with lower retail prices, even if the current city-rural and south-north price relationships are not changed. This may happen if either the industry responds to competition by lowering the wholesale prices to dealers, or if these dealers are willing and able to purchase gasoline from the Agency.

   If lower retail prices do not occur through either of these ways, then native bands and other groups may find it to their advantage to develop their own retail facilities, supplied by the Agency.

4. **The above measures, once successful for gasoline, can be duplicated for other oil products.**

For an elaboration of the feasibility and long-term viability of these recommendations please see Appendix D below.

The data show that if the measures recommended in this report had been in place as of January 1986, Manitoba prices for regular leaded gasoline would have been lower on average by 2.30 c/l in 1986 and first quarter 1987 if the Agency simply always bought from the rack; or lower by 3.93 c/l if the Agency was buying from Grand Forks and incurring a generously overestimated transportation cost of 2 c/l; or lower by 4.73 c/l if the Agency bought at prices that large resellers bought from refiners in the Prairies; or lower by 5.51 c/l if the Agency bought always from the cheapest source of the three. The actual prices that would have existed if the Agency always bought from the cheapest source is illustrated in Figure 50. Moreover, implementation of the above recommendations would have lowered the Winnipeg city price of regular gasoline by at least 2 c/l, even as of March 27, 1987, when the city's position in the Canadian market had been restored.[45]

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[45] This may be seen from the following illustration. The apparent margin for the option of imported gasoline from Grand Forks was 8.93 c/l for that date. About five c/l of this margin would go to

It appears, then, that even after restoration of the city's relative position there is still room for improvement in Winnipeg's prices if the recommendations are adopted. This points to the fact that the lack of effective competition in the Manitoba market is not a phenomenon of 1986, but an ongoing problem in this market.

The ongoing problem of lack of competition in the Manitoba gasoline market is brought closer to the surface when one compares the amount by which prices could be reduced on average by the recommended regime with price reductions expected on the basis of historical relations (price differentials, and the relation between crude and retail price in 1985). As already mentioned in section 2.1, Winnipeg prices were expected to fall by an amount ranging from 1.43-2.02 c/l and, for most of the calculations, from 1.73-1.82 c/l, if the city's historical position and cost-price relations were to be maintained. However, if the recommendations had been in place in the same period, prices would have been lower by 2.30-5.51 c/l, depending on the source of supply used by the Agency (that is, depending on the efficiency with which the Agency could seek the cheapest source).

The fact that the recommended regime would bring prices lower than expected by historical standards reveals that these standards are not those of effective competition; rather, the Manitoba market is shown to have been suffering from less than effective competition even before the crude price fall.

As this report is being completed, the Manitoba retail market is experiencing occasional and scattered price-wars in the city of Winnipeg and elsewhere.[44] These, or any other, price-wars are not satisfactory substitutes of continuously competitive prices. Not only do these wars not last, but they may occasionally be followed by higher prices than before the war, to recover losses. Price-wars are not indications of competition, but of oligopolistic markets in which some participants have control over price. Peculiar as it may sound, therefore, price wars are not at all preferable to continuously competitive retail prices.

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the retailer; a grossly overestimated transportation cost of 2 c/l is then applied to arrive at total charges of 7 c/l over rack, leaving at least 1.93 c/l for price reduction at retail. In fact, the amount by which unleaded gasoline prices would be lowered if the recommendations were implemented on that date is about 4 c/l, i.e., almost double the amount in the text (4 c/l) because of the fact that wholesale prices of leaded and unleaded gasoline are about equal in the United States, while ex-tax retail prices in Manitoba are about 2 c/l higher for unleaded gasoline.

[44] Examples are the Marion St. price-war, and the Highway no. 1 war (between Wpg and Falcon Lake).

Also, the Manitoba retail market is recently[47] experiencing more than usual price dispersions at the retail level; retail prices for regular leaded gasoline range from 46.3 c/l to 47.7 c/l. This price dispersion may give impressions of genuine robust competition at retail. However, even if this phenomenon is optimistically interpreted as evidence of competition, it can only mean competition of very little force, as the wholesale prices that branded dealers have to pay effectively set (along with any reasonable branded dealer margins) a non-competitive lower limit to retail prices in the first place.

In summary, current appearances are deceiving and action is still needed. This action must take place in two areas: wholesale prices must become more competitive, and retail margins must reflect costs and competitive profit levels. Competitive wholesale prices will prevail if Grand Forks or Minneapolis gasoline become effective alternatives to Manitoba supplies. Competitive retail margins will be obtained if a few independent dealers choose to mark up prices by such amounts.

The recommendations of the Commission are intended to achieve these two effects in the Manitoba gasoline market on a permanent basis.

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[47] Late July and early August 1987.

PART I

INTRODUCTION

Chapter 1

TERMS OF REFERENCE, OBJECTIVES, METHODOLOGY, AND POINTS OF VIEW

This chapter contains a short account of the Commission's terms of reference and associated objectives (section 1.1), a short description of data sources (section 1.2), a discussion on methodology of the study regarding treatment of several relevant factors (section 1.3), a representation of some industry views and the Commission's reaction to them (section 1.4), and a short concluding section on the basic approach of the report (section 1.5).

1.1 TERMS OF REFERENCE, AND OBJECTIVES

1.1.1 Terms of Reference

This report was commissioned by the Minister of Consumer and Corporate Affairs of the Government of Manitoba in March 1986, when there was concern that retail gasoline prices in the Province were not following the downward trend in crude oil prices experienced since the end of November 1985. The public concern at the time was evident from numerous press reports on gasoline issues.

The Commission's terms of reference included an investigation of (a) the relationship between world crude oil prices and retail gasoline and related product prices in the city of Winnipeg and elsewhere in the Province of Manitoba; (b) measures that could be taken to ensure that retail gasoline and related product prices in Manitoba adequately reflect world oil prices; (c) factors affecting retail price differentials between the Winnipeg retail market and other market areas in Manitoba; and (d) the associated regulatory powers that the Government of Manitoba has or should have in relation to gasoline and related products.

1.1.2 Objectives

The objectives of the report may be distinguished into descriptive, analytical and investigative.

1. **Descriptive Objective.** The main descriptive objective of the report is to examine whether the relative position of the city of Winnipeg (and, by implication, of the Province of Manitoba)

vis-a-vis other Canadian and some U.S. mid-west cities changed after the collapse in crude oil prices in late 1985 and 1986.[1]

2. **Analytical Objectives.** One analytical objective of the report is to estimate the proper response of retail gasoline prices to lower crude oil costs.[2]

   Another objective is to identify factors responsible for possibly sluggish response and lack of effective competition[3] in Manitoba gasoline markets, and to recommend government policies to help remove such market imperfections.[4]

   Finally, another analytical objective is to examine regulation as an option of market improvement.[5]

3. **Investigative Objective.** The main investigative objectives of the report are: (a) to identify competitive wholesale markets geographically close to the Province of Manitoba, and to suggest policies that could make these markets effective alternatives to the local market, and (b) to examine how competitive wholesale prices may be translated into competitive retail prices.[6]

1.2 DATA COLLECTION: METHODS AND SOURCES

1.2.1 Statistical Versus Anecdotal Evidence

This report steers clear of the folklore and the plethora of anecdotal evidence that seems to dominate informal discussions, and even manages to slip in some submissions, as to how the oil industry manages to 'manipulate' various components of the market in its attempt to make profits. The methodological route taken in this study is to examine market outcomes and to compare these to outcomes of markets exhibiting more or less effective competition; if there is discrepancy, explanations are sought without implicating the market participants.

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[1] Related to (a) in terms of reference, above.

[2] Related to terms of reference (a) above.

[3] The term is defined below, section 1.3.2

[4] Related to terms of reference (b) above.

[5] Related to point (d) in terms of reference.

[6] Related to terms of reference (b) and (c) above.

1.2.2 Data Sources

Data for the research conducted by the Commission were obtained from a number of sources, including statistical and trade publications; [7] commercial computer-accessed databases; [8] government departments and agencies; [9] major oil companies; and other sources.

To obtain viewpoints of participants in gasoline markets, the Commission sent a circular letter to a number of Associations and firms in the oil industry.[10] The Commissioner had informal contacts and meetings with individuals interested in the subjects studied by the Commission, and with representatives of major oil companies. Meetings with the latter were mainly intended to communicate research results of the Commission, to seek comment and reaction to these results, and to give the companies an opportunity to put their position to the Commission. The Commission also requested that a questionnaire be completed by the major oil companies.[11]

1.3 METHODOLOGY

Study of aspects of the oil industry is faced, like any other study, with complicating factors that must be considered and dealt with explicitly right from the outset. In subsections 1.3.1 and 1.3.2, a number of complicating factors are considered and the way they are dealt with in this study is made clear.

It may also be useful to briefly address the basic issue of competitiveness of markets as it affects their ability to solve resource allocation satisfactorily, and regulation as an alternative to market improvement. This is done in subsection 1.3.3 below.

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[7] Such as The Lundberg Letter, Oil Buyer's Guide, Petroleum Marketing Monthly, Oilweek, etc.

[8] Such as I.P. Sharp, Canadian Petroleum Association, and Computer Petroleum Corporation.

[9] Such as Statistics Canada, The Federal Ministry of Energy, Mines and Resources, Provincial Government Departments of Energy, the National Energy Board, The Petroleum Monitoring Agency, The R.T.P.C., The Bureau of Labour Statistics of the U.S. Government, etc.

[10] See Appendix A for the list of those who were sent the circular.

[11] See Appendix B for the questionnaire and a summary of the companies' replies to it.

1.3.1 Complicating Factors

1.3.1.1 Vertical Integration of Major Firms

As will be discussed in Part II below, the industry is almost dominated by firms that are vertically integrated, from oil exploration and production to refining and wholesale/retail marketing activities.

Vertical integration is a matter of individual company choice. Some companies have decided to integrate, some others (for example, Gulf) have receded from some areas of activity, while still others have traditionally remained in one sector of the industry.

The fact that some firms in the industry are integrated should not be allowed to cloud analytical or policy issues.

In terms of analysis, **the industry should** still **be examined in terms of its distinct components. This is the approach followed in this report,** to the extent that data availability makes it possible.[12]

In terms of policy, the fact, for example, that the crude oil producing sector may be in difficulty does not justify higher profits in the refining and/or marketing sectors that 'may be used to cover losses' in the producing end; these two components of integrated firms must be considered separately, despite the fact that their shareholders view them as a unit. If one component of activity does not perform satisfactorily enough, it is the shareholders' and management's choice to withdraw from it; but one cannot rationalize permanent or cyclical high profits in one sector from the fact that the other sector may be experiencing losses, permanent or cyclical.

If --perhaps in the name of self-sufficiency and survival of the producing sector-- one accepts that refining/marketing should be allowed to make high profits to finance losses in the producing end, one result will be further concentration at that end, as small non-integrated crude oil producers go bankrupt and their assets are sold to larger companies able to survive because of profitable operation in other sectors of the business.

Conversely, if --perhaps in the name of self-sufficiency and survival of the refining end of the business-- one accepts that the producing or retail marketing sector should be allowed to make high profits to finance losses in refining, the result will be non-competitive performance and losses to consumers and other users of the final products of the industry.

In short, the veil of vertical integration should not mask the basic requirement that, whenever the (intermediate) products of an integrated business are traded in distinct markets,[13] each component of that business should be able to make decent profits from its own operations, rather than expect to be financed from other areas.[14]

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[12] For example, profitability data of Major integrated companies are sometimes rather difficult to separate by activity.

1.3.1.2 Joint Production and Joint Costs

The refining sector of the oil industry operates in a joint product situation: crude is refined into a 'product slate' that includes products of different characteristics, demanded by users for differing uses.

The joint production feature of the oil industry causes at least two difficulties: first, cost is joint and therefore impossible to precisely apportion to various products, except by convention. As a result, the usually applied costing procedures are not precise but have to follow certain conventions to apportion total costs to various products; second, differing and occasionally changing demand conditions in the various markets of jointly-produced products can change established relative prices of the product slate without any accompanying changes in total processing costs.

The costing difficulty becomes relevant when one seeks to trace changes in costs of raw materials (in this case, crude oil) to changes in product prices. Different 'strength of demand'[15] conditions may then necessitate that cost changes affect prices in proportions not necessarily equal to those used in the allocation of the initial total cost to each product.

Consider, for example, the case of joint production of beef cuts from beef carcasses. A rise (fall) in the price of carcasses will not necessarily be passed on to all product cuts (the slate) in the original proportion that each type of cut is charged: rather, demand conditions may have to be taken into account, and the passing on of the cost change may be effected more than proportionately on the products with the 'strongest demand.'[16]

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[13] As is the case with crude oil, and with wholesale refined products.

[14] It is of course natural that all that matters to shareholders of an integrated enterprise is the overall rate of return on invested capital; but this fact only provides the management of an integrated firm with some elasticity in performance, in the sense that it can point out profits in one sector when the other may be experiencing losses. Integration, through the associated diversification of activity, allows management and investors a certain degree of freedom, but does not give licence to rationalize high profits in one sector on the basis of losses in another.

[15] What is technically called 'elasticity'

Gasoline is jointly produced with many other products, and is considered by the industry to be the 'strongest demand' product of the slate.[17] When, therefore, crude oil costs change, gasoline prices are supposed to react more than in proportion to cost changes, according to the industry's own argument during the seventies. **If, then, gasoline costs and prices are assumed to react proportionately [18] to cost reductions, as they are in this study, the calculations will favour the industry.**

The second, 'price-change-without-cost-change' difficulty, becomes relevant when costs do not change, but demand conditions for one or more products in the slate change, necessitating changes in relative prices.

Using the same example of beef cuts, demand changes may bring about changes in the price of some cuts without changes in total slate costs. For example, the t-bone steak price rises rather substantially during the summer season, to balance higher seasonal demand conditions, without any change in carcass costs necessarily occurring.

In a similar manner, it is conceivable that gasoline demand conditions may strengthen over time relative to the demand for other oil products. Prices must then change making gasoline relatively more expensive than before, while costs may have remained constant.

Now imagine the logically possible case in which crude oil costs would fall but gasoline demand conditions would be strengthening at the same time, relative to demand for other oil products. The expected reduction in gasoline prices would then be less than justified by its traditional level of demand strength, since its relative price would have to fall in response to lower cost but it would also have to rise, ceteris paribus, in response to stronger relative demand.

One would expect the oil companies, who are direct market participants and as a consequence have a better 'feel' of the market than outsiders, to point out this case should it arise, particularly since it benefits them in an environment of falling prices. The companies have not made this case for gasoline demand in the period under study. It is therefore not only legitimate, but also in their favour, to calcu-

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[16] i.e., the less elastic demand.

[17] Because of this, even the initial cost allocation is usually effected in such a way (by the sales realization method) that the cost charged to gasoline is higher than justified by its quantity share of the product slate. See Appendix C for methods of allocation of costs to joint products.

[18] See Appendix C. 'Proportionately' means 'in proportion to the share of their quantity in the total quantity of the product slate, which would be even less than the initial cost allocation (see previous footnote), let alone greater.

late required changes in gasoline prices at proportions in accordance with quantities produced. This is the approach followed by the Commission in this report.

1.3.1.3 Many User Categories at Wholesale and Retail Levels

Gasoline wholesale and retail distribution is characterized by many participants purchasing the product under different conditions.

At the wholesale level, for example, data collection procedures distinguish purchasers into branded dealers, commercial and industrial buyers, consumers (farmers, etc.), (independent) resellers, and others. Each of these categories purchases under different volume, delivery, credit and other conditions. The situation is similar for the retail level, although perhaps to a lesser degree.

This multiplicity of buyer categories, along with the fact that competition at the wholesale level is less than effective,[19] allows refiners to charge differential prices.

Refiners explain **price-differentials** by the various contract conditions **of the buyers** (volume, delivery, credit, etc). While these differentials may in fact be totally due to these and other similar factors, it is conceivable that **less than effective competition may be partially responsible for them.** To obtain an answer to this puzzle, one could examine differences in costs of selling to different buyer categories, to see whether these differences are sufficient to explain price differentials. But a better **test may be an increase of effective competition;** if the differentials do not narrow then, one may accept that they are mostly due to the above factors.

1.3.1.4 Many Locations

Gasoline is sold in various locations at prices not necessarily equal. **Geographical price differentials at retail** may be explained in part by differences in taxation and transportation and other costs. Where these two factors are not enough to explain them, the differentials are claimed to be **due to 'local market conditions',** in other words, that not only costs but demand conditions in different markets are responsible for differentials.

These different market conditions can, in fact, be of two basic types: **either temporary divergences** of the cyclical type,[20] which cannot be there for long, **or different degrees of competition** in markets, allowing the sellers to charge prices not fully justified by costs. In contrast, **a market with effective competition would produce differentials more or less justified by different cost conditions.**

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[19] The term is defined in section 1.3.2 below.

[20] For a more detailed discussion of this distinction see the section on the companies' point of view, below.

Economists usually **seek to devise market and non-market mechanisms to obtain price differentials which reflect cost conditions only.** It is in this spirit that the recommendations of this Commission address the question of price differentials such as those to buyers of gasoline, or differentials between Winnipeg and other areas of Manitoba, for example. See Section 1.3.2.

1.3.1.5 Different Units of Measurement

Though easy to deal with in principle, the presence of different units of measurement in gasoline (litres, imperial gallons, U.S. gallons, barrels, cubic meters, etc) and of more than one monetary unit (Canadian dollars, U.S. dollars) does not make comparisons easy in practice.

The practice in this report will be to reduce units to Canadian cents per litre in most cases, though occasionally dollars per barrel may be used.

1.3.1.6 Past Versus Present Market Relations

One approach in this report is to take the **pre-1985 relations as given,** without much question. **These are** then **compared to the situation after 1985,** and if **differences** are observed **which cannot be ascribed** to the change from a regulated to an unregulated environment, the study seeks an explanation in other temporary or permanent changes in market conditions. If no such explanation is available, especially from the companies who are closer to the market than anyone else, the conclusion is drawn that these changes are not due to normal market operation under effective competition, and **are** therefore **undesirable and unacceptable.**

For example, pre-1986 price differentials between Winnipeg and other Canadian cities are determined and accepted without further question as to their economic justification. The main purpose is not to question these differentials, but to trace any changes that may have occurred after 1985. If changes have occurred that the market participants cannot explain, these changes are then viewed as irregular, unexplainable and unacceptable.

As another example, the relationship between retail gasoline prices and crude costs in the second half of 1985 is taken as given. Any changes in this relationship after 1985 must then be explained by explicit reference to changed market conditions, or the situation is unacceptable.

This approach achieves the limited objective of tracing any non-acceptable changes since 1985; but it stops short of a broader set of objectives in two specific ways:

1. first, the approach stops short of drawing behavioural implications from unexplained changes between the two periods. For example, others might be prepared to say that an unexplained increased differential of retail prices between the city of Winnipeg and other cities implies collusive behaviour on the part of market participants; the Commission stops short of such allegation, since it considers it possible for an imperfect market to allow such developments, without explicit collusion.
2. second, the approach leaves open the question whether the historical behaviour of the relevant variables (for example, retail price differentials between Wpg and other cities, and retail price versus crude oil costs in Wpg) is normal and acceptable; it is quite conceivable that past values reflect unacceptable levels of competition. This matter is addressed only indirectly in this report, that is, by comparison with developments in markets exhibiting effective competition.

This opens the approach to possible criticisms. For example, one may argue that relationships between retail price and crude costs in the pre-1986 period are not normal, but they reflect low profit conditions because of price-wars, or because of chronically low rates of return in the industry. Both of these criticisms are answered elsewhere in this report.[21]

1.3.2 Winnipeg City Versus the Province of Manitoba

The Commission's terms of reference refer to gasoline prices not only in the city of Winnipeg, but also in the Province of Manitoba, with special attention to differentials between the city of Winnipeg and the rest of the Province. Nevertheless, most of the analysis below concentrates on the city of Winnipeg, for the following reasons.

First, data on retail prices and costs in various rural locations were not easily available on a current and continuous basis; collection of such data through surveys of these areas on a continuous basis would have necessitated the establishment of a survey system, a rather laborious and resource-demanding setup.

Second, even if data on rural and northern Manitoba prices and differential costs of delivery, storage, etc. could have been collected, it is not clear that the benefit from that exercise would be high enough. This is because, in most cases, any calculated 'reasonable' differentials would have to be computed from the 'base-price' of the city of Winnipeg. A determination of the 'proper' price for the city is a sine qua non for further refinements. It seemed, therefore, more appropriate to devote research resources to the determination of this 'proper' price. Moreover, determination of cost-justified differentials over and above that price would be required and used in a regulatory mode and, in that mode, submissions from suppliers would probably be one of the sources of determination of these differentials,[22] rather than a one-point-in-time calculation by the Commission.

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[21] See chapter 10 below.

Third, if the thrust of the recommendations is to be market improvement toward effective competition, calculation of price differentials is again more or less redundant since, if effective competition rules the market, the price differentials will come to reflect justified cost differentials.

The above remarks do not mean that the recommendations of the Commission will ignore areas other than the city of Winnipeg; on the contrary, both rural and northern prices are addressed by the recommendations of this report, though, admittedly, the benefits for rural and northern retail users may not come so easily as those for Winnipeg city users, making regulation a serious alternative.

1.3.3 Markets Versus Non-Market Mechanisms

1.3.3.1 Effective Competition

For purposes of this report, 'effective competition' will be taken to mean a situation where all market participants not only feel unable to affect prices by their actions, but also feel subject to market forces that are impersonal and not directly attributable to any single participant. In other words, participants not only are helpless to affect the price but also do not see their position in the market being affected by actions of visible and identifiable 'competitors'. Rather, the market seems to them to have 'a mind of its own'.[23] Moreover, such a market is frequently connected, pricewise, to other, sometimes distant and therefore seemingly unrelated, markets for the same product. This set of conditions may arise when market participants are numerous and therefore relatively small and unimportant to the total market as a whole.[24]

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[22] Since these differentials change over time and their proper levels also depend on sales volume.

[23] Participants close to the market may be able to identify the general forces which shape the market price, and even explain them and their effects on the market; but these forces are not identifiable with specific participants; also, this knowledge does not mean control over market forces.

[24] A large number of participants does not by itself guarantee effec-

Most will probably agree that the closer a market is to perfect or effective competition the more acceptable it would be as a mechanism for purposes of pricing and resource allocation.[25]

It is, of course, recognized that few, if any, actual markets satisfy the standard of effective competition fully, although some do approach it to a satisfactory degree; this does not deny the standard its usefulness as both a yardstick of competitiveness and an ideal to strive for. Dismissing the yardstick as unattainable, therefore irrelevant, begs the question of how actual market results would then be evaluated. See below, Section 1.4.2.

An example of an oil products market exhibiting, prima facie, effective competition to a large degree is provided by the New York wholesale oil product market. This market appears to have a large number of participants who, by virtue of their large number, cannot control price and probably do not see their ultimate interdependence; competition is thus probably impersonal and unidentifiable. Moreover, the market seems fairly closely related to other distant markets such as the Rotterdam market for wholesale refined oil products. As Figure 31 shows, New York and Rotterdam product prices move very much in unison.

In contrast to the above example of markets with more or less effective competition, developments in less competitive markets seem isolated and independent from those in other geographical areas, resulting in price-differentials not fully satisfied by cost. Rather, 'local market conditions' seem to govern developments in these markets, as industry officials would probably say. But then, it is difficult to escape the conclusion that 'local market conditions' is mostly a term summarizing non-competitive factors at work in local markets; in contrast, these 'local' conditions would not be effective if the market was more or less competitive. This is the case, for example, for the wholesale gasoline market in Grand Forks which, as Figures 29, 30 and 33 show, is driven not by 'local' conditions but mainly by international market forces from as far as Rotterdam, Holland.[26]

Between the extremes of effective competition (in which prices are fairly uniform except for cost-justified differentials) and that of less competitive markets (which can sustain differentials not justified by cost for a long time) one may find a whole range of markets in which price-differentials may exist for some time as a result of price changes by a number of market participants. In the case of price reductions, sales volumes of those lowering their prices increase ac-

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tive competition: each and everyone of them must also be unable to affect the market by his/her actions.

[25] Though not necessarily for income distribution.

[26] The same Figures also imply that both the Minneapolis and the Buffalo market are driven by the same forces.

cordingly, and it takes time for the rest of the market to follow them. In the case of price increases, sales volumes fall initially and are restored later as the market follows; or, if it does not, the firm is forced to return to the lower price or suffer lost sales.

1.3.3.2 Price-Wars, Price Variations, Depressed Prices

It may be useful to distinguish the above terms so that the concepts referred to in the rest of the report are clear from the outset.

Price-wars. The concept implies that someone uses the market price as a weapon to achieve a certain goal. Price-wars, therefore, can occur only in markets where some participants have control over price. These markets are not close to effective competition, or price control would be impossible.

Price-wars normally occur when the historically established market shares of various participants are deemed unacceptable by at least one of them, and that participant is willing and able to take action to change them. He/she then lowers the selling price of the product and, if others follow, a price-war may ensue. Price variations are usually large, and prices often approach, or even fall below, costs in some cases.

The incentive to drop the price and increase market share is more pronounced when fixed costs are a large proportion of total costs, since in this case the increase in sales means an increase in profits higher than otherwise. Fixed costs are high when the initial investment necessary to set up the operation is high. When this is so, the market is subject to a barrier to entry (initial capital, and the risk of losing it should the firm fail), and is therefore less competitive.

The incentive to drop price is also stronger when temporary surpluses of products exist; but product surpluses alone will not result in price-wars per se, but in gradually lower prices for some time. This is because price-wars may bring prices to such low levels that the initial incentive to sell the surplus product may be easily defeated in the process. For example, if a surplus of 10% of regular sales occurs, it will pay to destroy it rather than to drop prices by more than 10% in order to sell it, as a price drop of more than 10% will result in less total revenue with the surplus sold than was collected by selling regular volume at regular price.

Price-wars do not usually last long because participants in less competitive markets realize that they can, collectively, increase total profit by cooperatively raising prices, while general price-war conditions do not help anyone. Price-wars can recur, however, as long as some participants (new or old) are not satisfied with current market shares and find other forms of non-price competition slow or ineffective.

Price-wars are usually followed by prices slightly higher than they would have been in the absence of wars, the purpose being to recover some profits foregone during the war.

Price variations, or price volatility, are a far more general condition, which fits both competitive and less competitive markets. One cannot therefore deduce very much about the degree of competition in a market from price variation alone, except, perhaps, that more competition usually produces more frequent, if mostly small, variations in prices in both directions, while less competitive markets exhibit less frequent price changes in the upward direction. Price variations in the downward direction are usually large, as happens in price-wars.[27]

Take, for example, the variation of prices in the New York and Rotterdam product markets (Figure 31). From the range, frequency and directions of price changes in these markets, and also from their interdependent movement, it would be difficult to establish that their price volatility is the result of conscious price decisions by participants; rather, it is probably a better description to say that participants have to 'price into the market', that is, accept the going market price rather than set it. But the fact that this market is competitive does not mean that the price will not vary; on the contrary it will probably vary much more often (though by smaller amounts and in both directions) than prices in less competitive markets, as supply and demand conditions, and associated expectations, change.

As another example, take the Toronto retail market in Figure 23, which shows frequent and small price variations again in both directions. Some of the variation in this market may be explained by attempts of some participants to raise prices above competitive levels (for example, in May 1986); but these attempts do not bear permanent fruit, as competition soon drives prices back down. The situation resembles more a tendency to approach competitive price levels, rather than a price-war, since no participant appears to have full price-control in that market, and price variations do not result in sharp price reduction, as a price-war would. Finally, Figure 47 shows price variations in the Thunder Bay retail gasoline market. The range, sharpness, and predominantly downward direction of these variations in the period 1983-85 fits the description of price-wars better than any other; large dips in prices occur in this market, where neither demand is volatile nor cost conditions fluctuate, and expectations are of little importance.

Depressed market conditions is also a much more general case, not limited to less competitive markets. Again, a price-war may cause low prices for some time, and some may choose to describe the situation as a 'depressed market'; but depressed conditions also occur in markets with effective competition when either demand shrinks abruptly or supply increases abruptly. The term 'depressed market' is best reserved for this situation, where the market is out of balance for a more or less longer term due to supply/demand changes.

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[27] Generalizations such as the one in the text are complicated by variations of market demand, which do not necessarily depend on the structure of the market. If demand fluctuates (as is the case when it is partially driven by expectations) a large portion of price variation in the market may be due to it.

1.3.3.3 Rivalry Versus Effective Competition.

When competition is more or less effective and impersonal the market participants rarely complain of 'keen' or 'cutthroat' competition in the marketplace; they may complain about the level of price as formed by the market being too low, or they may object to the price volatility sometimes characterizing these markets, but rarely do they make remarks about their 'competitors' and their actions.

In contrast, when competition is less than effective market participants can identify their competitors and can observe the competitors' actions affecting their own position in the market. This is usually the case when the number of participants is small and, by implication, the share of each in the market is rather large.[28] One then hears market **participants refer to 'keen' competition** in the 'marketplace'; they also point out the need to constantly monitor the firm's position in the market and to take steps to retain that position in case competitors take evasive action, etc.

When competition is more or less effective there is no concept of price-war in the market since no one's actions seem to have appreciable effect on it, therefore no one feels they have to counteract anyone else's strategies to maintain their market position. When, however, competition is less than effective, price-wars may erupt as market participants attempt to re-position themselves in the market and gain market share, and others react to maintain theirs.

It is natural for the untrained observer to think that effective competition is in action when competition is visible, and when price-wars can occur. But competition is usually visible only when it is personal, and not effective in the proper sense. Economists use the term 'intense personal rivalry' to distinguish this situation from that of effective competition. The distinction is important because when markets exhibit rivalry they are oligopolistic, rather than competitive. Oligopolistic markets are not considered efficient from the point of view of resource allocation in a capitalist economy.

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[28] Again, small numbers are not necessary for a market to be less competitive; the construction industry, for example, has markets with numerous participants but with less than effective competition, since a few large firms control a major portion of these markets.

The thought that visible competition (rivalry) and price-wars mean that the market exhibits effective competition and that it therefore 'works' is unfortunately a rather common error, sometimes legitimized even by the media. As a consequence, one frequently hears statements to the effect that 'the market is highly competitive' and, by implication, 'there is no need for policies or intervention', when in fact the market is dominated by a small number of large participants, competition is much less than effective, and some action might be advisable.[29]

When price-war breaks out in a market the proper thinking should be not only 'this is a good opportunity to stock up' but also 'beware of prices rising higher than they were before all this started'; as for the press, it might be useful to consider suggesting corrective action through editorials, rather than to unwittingly become proponents of the situation by reporting price-wars as indications of effectiveness of the market system, which they certainly are not.

1.3.3.4 Improving the Operation of Markets

In those cases where modern markets fail to approach the standard of effective competition to a satisfactory degree, either improvement of the operation of these markets or regulation to counterbalance the non-competitive elements in them is often pursued by governments.

Improvement of market operation may be sought in at least two ways. One way would be to attempt to remove those 'local market conditions' responsible for the non-competitive structure in the market. This route would attempt to promote competitive behaviour on the part of all participants, current and future. If, for example, barriers to entry existed in some form or another and they were removed for everyone, participants in the market would have to adjust to larger numbers of sellers.

Another way to improve market operation is to establish one or more participants whose incentive structure is such that they behave competitively, irrespective of the rest of the market. Such participants will not necessarily appear by themselves in the market:[30] they will most often have to be implanted by specific government policy measures creating them, or inviting their creation by private agents. If the government creates the market participant (as a Crown corporation, for example), it will be competing in the market along with private firms. If it invites the creation of competitive firms by private agents, it may specify a structure of financing programs which would be available to these firms on condition of competitive behaviour. This strategy would most likely remove barriers to entry by small participants, and it would probably make it possible for them to behave competitively with less risk than if they operated without these programs. While this situation may appear to set these participants in a favoured treatment category, the strategy only makes their risk circumstances subjectively equal to the risks faced by larger firms. The risk of losing a given amount of money is not evaluated in the same way by small firms as it by large ones: rather, the loss appears greater to small firms because of their usually meagre resources, while it appears acceptable to larger firms with good financial depth. Small firms, therefore, must be allowed to operate with reduced risk, so that market conditions become as acceptable to them as they are for larger firms. In that way, barriers of entry to these specific firms are removed by policy.

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[29] In contrast, when competition is actually close to effective, and by implication the market should be left alone, the price volatility that may ensue sometimes arouses cries for government policy and involvement to take the 'uncertainty' out of the market. Such is quite often the case with markets for agricultural products, for example.

[30] Any new participants appearing in the market of his/her own accord would tend to behave in much the same way as those already in the market.

Improvement of market operation would be naturally preferred over regulation if it was always possible and effective, but these two conditions are not always satisfied in practice. For example, when the market is a natural monopoly or oligopoly it may not be feasible to change market conditions toward more competition. Under these circumstances, regulation may become the only effective route of action in order to improve the performance of these markets.

Two forms of regulation may be considered. One is the standard form, associated with Regulatory Boards and formal proceedings (hearings, submissions, etc.); the other is a possible form of automatic regulation setting prices on the basis of some outside observable magnitude. More on these forms of regulation will be discussed in Chapter 13 below.

The recommendations of this Commission, after consideration of regulation as a possible route, are in the spirit of market improvement. Improvement is sought by recommending that the government implant market participants in both wholesale and retail markets, with incentives to behave competitively. The government would provide the capital necessary for operations at a regular financing charge, and assume the capital risks. As already mentioned, this is not favoured treatment of small operators, but a policy which removes barriers to entry for them, by equalizing their risks to the risks experienced by larger firms in the market.

1.4 CERTAIN CONCERNS AND VIEWS OF THE INDUSTRY

This section summarizes, as faithfully as possible, certain concerns, views and positions of the oil industry as these have been drawn to the attention of the Commission during its investigation, and as they have become apparent to the Commission from its research of relevant documents.[31]

Summarizing others' views and positions carries the inherent danger of being accused of misunderstanding and/or intentional or unintentional misrepresentation. Despite this danger, the Commission considers the exercise useful, on balance, and stands to be corrected where it has misrepresented the industry, stating in advance that this exercise was undertaken with the best of intentions, namely with the **dual purpose of making the both the industry's and the Commission's position on relevant issues as clear as possible.**

1.4.1 General Concerns of the Industry

1. **'The Industry is Too Visible, and an Easy Target'.** This concern appears justifiable, given that gasoline in particular is a very price-visible product. The problem is compounded by the fact that this product does not seem to yield direct satisfaction in the same way as other commodities do, but it is needed rather indirectly. This may make some consumers view the expenditure for it with a grudge.

2. **'The Industry is Complicated, and Easily Misunderstood'.** This concern also appears justified at times, given the complications of technology, vertical integration, and various degrees of competition in the different stages of production and marketing of oil products.

   An example of often-misunderstood aspects of the industry is the fact of joint production and the associated reality of joint costs. Joint production makes the direct connection of costs to products impossible in principle; yet, there are those who ask for exact determination of the 'true' cost of one of the joint products, when in fact the relevant test of profitability and proper cost-price relations is normally in the comparison of total revenue to total cost for all products.[32]

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[31] The positions of the industry examined in the preliminary report are not repeated here.

[32] It is, however, possible to do quite some analysis by using only one product, if the correct methodology is adopted, and if the questions are limited to changes only, as in this report. See above, section 1.3.1.

3. **'Demand Versus Costs as Determinant of Price'.** Faced with questions of why retail prices have not followed crude costs either fully or promptly, the industry has attempted to show that market prices do not necessarily reflect costs at all times, changing when costs do not, and not changing when costs do. Moreover, industry officials take the opportunity of joint costs to point out that accounting methods used to apportion these costs to the various products use market prices; the implication is, therefore, that market forces play a greater role in the determination of prices than costs do, since even the determination of the latter is price-driven.

   These contentions contain some truth, but cannot be used to obtain licence to explain away all possible divergences of prices from the sum of costs and normal profits. While it is true that the constellation of relative prices of the product slate from a barrel of crude is determined to a large degree by demand factors (income, preferences, availability of substitutes, etc), it is equally true that unless that constellation of relative prices results in an acceptable excess of total revenue over total costs the firms in the industry will not be producing for long. **Cost, plus a 'normal' profit,** therefore, **constitutes the long-run lower bound of total revenue** that must be collected **in any market,** and indirectly determines lower bounds for the relative prices of the products. It is also true that reductions in total costs would be expected, if effective competition ruled the market, to result in lower retail prices in the short-run, unless competitive conditions had deteriorated in the interim. **Cost, plus a normal profit,** therefore, **also constitutes the long-run upper bound for total revenue in competitive markets.**

   It is of course recognized that changes in the relative price structure, and divergences of the associated total revenue from the sum of costs and normal profits in industries with effective competition **do occur in the short-run.** These changes can be of at least three main types:

   a) **Temporary divergences** of the cyclical type. If these are properly recognized by the representative[33] firm, they evoke almost no permanent response from it, since the effects are only temporary.[34] **During the cycle, profits will rise and fall temporarily** without major adjustments in the representative firm.

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[33] This economic term means the 'typical' firm of the industry.

[34] In a more realistic environment of firms with different cost and other conditions, some of the weaker firms may have to exit in recession, even if the expectation is that conditions will ameliorate.

b) **Permanent divergences,** which will, if properly recognized as such by the firms, evoke permanent changes in long-term variables such as plant size, etc. **Profits will be at non-normal levels while the long-term adjustment will be taking place.**

c) **Permanent or temporary changes in the degree of market competition,** making it possible for prices to rise or fall without basic changes in cost or market demand conditions.

Recognition that it is possible for prices to diverge from levels dictated by costs does not mean that one can make this point and leave it at that; divergences must be explainable in terms of some factor at work in the market at the time. Moreover, the more competitive the market, the speedier the adjustment to upsetting factors, ceteris paribus. The approach of this Commission, therefore, is to seek for explanation of short-term divergences; **if no such explanation is forthcoming, these divergences** will then be considered **unacceptable** and not due to competitive market forces.

4. **'The Industry is Too often and Unjustifiably Accused of Collusion'.** This concern probably refers to accusations from various quarters, to the effect that small numbers of major firms in the oil industry make it possible for them to coordinate pricing and other strategies to limit competition. **The issue of collusion, and related aspects, were not investigated in this study.**

   Regarding behavioural aspects in general, the Commission has taken an agnostic, if not sympathetic view of the firms, as follows: Firms in the oil industry have invested huge amounts of capital in all stages of production, refining and distribution of oil products, and expect, justifiably, to make profits from this investment. If, in the process, they find themselves operating in markets exhibiting less than effective competition due to natural and other barriers, they will naturally take maximum advantage of the lax competitive discipline available to them, and will enjoy higher than normal profits. **Companies cannot be expected to strive to create more effective competition themselves; by the same token, they cannot legitimately complain if conditions become or are made more competitive, by natural change or by policy action.**

1.4.2 Industry Views on General Issues

5. **'Competition is Keen; the Market Works'.** Many statements from the industry claim variations of the above position. These statements are sometimes true, for some local markets exhibiting effective competition, but they also frequently refer to local markets where competition happens to be less than effective. Perhaps the industry then means that competitors' actions

in these other markets are felt rather strongly, and monitoring and countering of these actions is necessary in order to maintain one's position in the market; these are competitive characteristics of oligopolistic markets, where competition is not so effective.

Another form of the position that competition is keen in oil product markets refers to the functional substitutability of the products produced. This would be a valid point to the extent that the markets for competing substitutes (such as natural gas, for example) were markets with effective competition; but this does not appear, prima facie, to be the case for all substitutes of oil products.

Some industry officials point to price-wars as evidence of competition in some markets. The high fixed costs in relation to total costs in refining and marketing create incentives of lowering prices by participants who see that it would pay them to achieve high degrees of utilization.

As already explained in section 1.3.3.2, **price-wars are indeed evidence of some form of competition, but not of effective competition;** while these wars are started by identifiable participants whose aim is to increase their market share at the expense of equally identifiable competitors, effective competition pricing is driven by so many participants that it appears impersonal to the average market seller or buyer. Also, while price-war pricing may often drive prices to unacceptable levels from the point of view of costs, pricing in effective competition is usually on the mark, except when changes in long-term conditions occur and adjustment is then needed. **Pricing in effective competition is preferable to oligopolistic conditions evoking price-wars.**

6. **'Competition is what it is in each market. Local market conditions'.** These are common phrases in industry explanations of why prices differ from market to market. While the statements are basically correct representations of differential degrees of effective competition in various markets, they seem to imply that what 'is' in each market is what 'ought to be'; that is, there is no need for interference or market improvement, since the 'market works'. Different markets, different conditions, different prices. All is well.

   The problem with this position is that the market does work indeed, but not always so effectively as it normally could or, for that matter, as it normally should. More effective competition is part of the ideal that should be sought in every capitalist market; it is effective competition that renders the market system desirable as a system of socioeconomic organization. Monopolistic and oligopolistic conditions may be tolerated as, sometimes, necessary evils, but the virtues of the market system certainly do not derive from such market formations, even according to the most ardent proponents of the capitalist system.

To argue that theoretical models of competitive markets are inappropriate for dealing with modern-day 'mixed economic environments characterized by advanced technological industries and significant government intervention', and that, therefore, today's markets 'must be studied as they are' and not in relationship to some ideal, is a position that could be interpreted as demanding to obtain a licence to steal: without the existence of a norm to compare with, one may be able to defend totally unacceptable results, but one cannot also expect this interesting 'methodology' to be acceptable in social science.

7. **'Profits are the engine of growth'.** Few would disagree with this statement, except when it is used to implicitly justify profit levels that may be unnecessarily high for the continued prosperous existence of industry.

   Also, the implication is objectionable when all growth is expected to be financed from profit, and therefore the required profit must increase for this reason alone. Growth, if greater than that allowed by profits, may have to be financed out of savings of new participants; it is not necessary to require that all growth in an industry be financed by raising prices of its products.

8. **'Cyclical Behaviour of Profits is Normal'.** According to the industry, cyclical behaviour of profits is not only normal but also to be expected. Moreover, margins tend to widen when costs fall, while they narrow when costs rise, also contributing to cyclical behaviour of profits. The widening of margins is evidence that the market works both ways, not evidence of lack of competition. These variations in margins happen to the extent that market conditions permit them; moreover, this phenomenon is not limited to the oil industry but is prevalent in a modern industrial society.

   There is little to disagree with in this statement. Even in a perfectly competitive industry of the textbook type there will be some change in margins before the market responds to changing conditions. This lag is necessary for participants to receive, digest and act upon the informational signals of the market. Even after this process is complete, there is a lag until the market responds to the participants' actions.

   However, other things equal, a market exhibiting effective competition would generally exhibit shorter lags of response compared with a market exhibiting less competition. Moreover, as explained in point 3 above, cyclical variations must have an explanation to be acceptable.

9. **'Retail Prices do not Necessarily Track Costs'.** Because of joint production and the associated impossibility of assigning specific costs to specific products in any precise way, it is impossible to track raw material costs directly to revenues of any one product. Moreover, even if this tracking were possible, the relationship between cost and revenue would vary depending on individual product demand and its elasticity. As a consequence, the 'rightness' of any specific price can only be assessed in terms of its ability to persist against the competitive forces at work in the market.

   The Commission recognizes fully the idiosyncrasy of joint production and costing difficulties thereof, as point no. 2 of section 1.3.1 above makes clear. But it sharply disagrees with the implications that some industry officials wish to draw from these facts, namely (a) that changes in raw material costs cannot be tracked, which they can indeed be (see point no. 2 of section 1.3.1 above), and (b) that the 'rightness' of any specific price can only be assessed in terms of its ability to persist in the market. Persistence of a price in a market only indicates that the price in question satisfies, more or less, the requirement of balancing aggregate supply and demand without causing market participants to react to change it. It does not indicate anything about the degree of competitiveness of that price: an exorbitant monopolistic price may persist for quite a long time, if barriers to entry are prohibitive for aggressive participants and no substitutes exist. This scarcely legitimizes this price in the eyes of those who expect the capitalist market system to perform properly in terms of resource allocation.

1.4.3 Concerns and Views on Specific Issues

10. **'Rates of Return Have Been Too Low for Too Long'.** The industry has been reporting low rates of return on capital employed (R.O.C.E.) for at least the eighties. It points to them whenever there are suggestions that the market does not work competitively; it also has argued that lower crude costs could be used to restore rates of return in refining and marketing to acceptable levels, instead of passing all savings on to lower retail prices.

    The first issue here is the use of capital employed as the base for calculation of the rate of return in the industry. Capital employed includes borrowed capital, while capital invested (equity) includes only the shareholders' capital. The use of capital employed as base yields a rate of return that even some industry officials openly state is not so interesting for the shareholder of an oil company, except in a peripheral comparative sense, perhaps.[35] Since the return on capital employed is lower than the return on equity, it may give false impressions to the public who would have difficulty sorting out this from other rates of return, and understanding that R.O.C.E. is not the common man's rate of return on investment. The public would naturally have a tendency to compare R.O.C.E. with their concept, which is much closer to the rate of return on equity, and would be surprised to 'find' that the oil industry makes so 'little' even in its good times.

The second issue is the reporting of rates of return for integrated enterprises, as opposed to rates of return for the segments of the oil business. As pointed out above[36] this rate of return may be of interest to shareholders at a point in time, as an indicator of aggregate performance; but individual rates of return are also important for monitoring whether it is worth staying in each component of the business separately.

The third issue is whether rates of return have been chronically low in the oil industry, or whether they are specific to the eighties. This question is complicated by the fact that most industry information refers to overall rates of return of integrated enterprises. Looking at overall rates of return, it is possible to observe situations of apparently chronically low returns when in fact the actual situation is that, at any point in time, some segments are doing very well while others are in relative difficulty. Since the latter tend to drag the rate of return down, the impression may be given that the whole industry is under chronic difficulty, when in fact all that happens is, perhaps, that the industry's segments are subject to cyclical influences.

Some industry officials may wish to argue that rates of return are chronically low in their business. The reply to them must be that they should perhaps examine their investment alternatives closely, to see if it pays them to exit the oil industry, or to concentrate in one segment of it only.

If it is agreed that rates of return in the various segments behave somehow cyclically, the next question of interest to the Commission is whether the opportunity of lower crude costs could and should be used to restore low rates of return in the refining and marketing sector, instead of passing all the savings to retail prices.

The Commission's position on this point is that, if the market exhibits effective competition, all savings will have to be passed on to retail, irrespective of what the companies wish to do with them; **this suggests that** the market does not require correction of low rates of return through this channel, but though a different route. More specifically, the effective **market-dictated correction of low returns resides in refinery capacity adjustments.** If the oligopolistic nature of the integrated firms in the oil industry makes it difficult for them to adjust as promptly and fully to excess refining capacity as their technological conditions permit, it is not the fault of consumers of oil products, and the latter cannot be expected to shoulder the burden of slow adjustment of capacity; the industry must pay for it through a low rate of return, which, by the way, is the only way to discipline it to adjustment of the proper variable, according to rules of operation of competitive markets.[37]

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[35] See the company replies to question no. 1, in Appendix B.

[36] Point 1 of section 1.3.1

11. **'The Refinery Capacity has Adjusted to Demand'.**

According to the industry's view, there has been no delay in reduction of refining capacity in response to the lower product demand of the eighties.

But if this is so, one will have to explain why rates of return have not been corrected back to acceptable levels with the same speed that capacity has been presumably adjusted. No such explanation has been given by the industry. Moreover, other studies[38] state that further capacity reduction is still necessary. It should be noted that capacity reduction is not something an oligopolistic firm would generally want to do in the absence of similar action by competitors, for fear of loss of market share.

12. **'Regulation is not Desirable'.** According to industry officials, regulation may stabilize prices but it will usually also lead them to a level higher than that dictated by competition, since it will find it necessary to protect the least efficient firm in the market. Regulation will also create administrative burdens leading to higher costs and prices. Finally, regulation leads to a system less responsive than the free market.

The Commission finds little to disagree with in these statements, except that, when the market is not competitive it may be socially desirable to apply regulation since its costs are, in some cases, less than the costs of a non-competitive market environment.

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[37] For further discussion of this issue see chapter 10 below.

[38] The Canadian Refining and Marketing Industry: A New Era of Growth. R. Robinson and D. Mathieson, R. H. Robinson and Associates Ltd., April, 1986, p. 15.

13. **'Retail Price Levels in Wpg in 1985 were price-war levels'.**

    This contention is dealt with in Chapter 10 below.

14. **'Winnipeg prices have responded fully to lower crude costs'.**

    This is also dealt with in chapters 8, 9, and 10 below.

15. **'The Adjustment to Lower Crude Costs and FIFO/LIFO'.**

    This position is examined in Chapter 4 below.

1.5 SUMMARY: BASIC APPROACH OF REPORT

The basic approach followed in this study should by now have become clear. First, the various components, and the associated markets of the oil industry (crude oil, wholesale products and retail products) are examined separately. Second, past relationships are taken as given, and the search is for unexplained changes in these relationships since 1985. Third, comparisons are made with various regions and for various periods, and finally other comparisons are with markets that exhibit effective competition, so that local market developments may be judged accordingly. Fourth, anecdotal evidence on industry behaviour is not used, and the industry's concerns are addressed from the outset to make positions clear.

The tenor of the report is that oil product markets may be an acceptable mechanism of resource allocation and pricing, but it must first be settled that competition is effective in these markets. If it is not, then policies should be followed and measures should be taken to promote effective competition. If those policies are not allowed to work, then regulation should be considered as last resort.

PART II

THE STRUCTURE OF THE CANADIAN OIL INDUSTRY

Chapter 2

THE OIL INDUSTRY COMPONENTS

This chapter provides brief information on the various components of the oil industry, and their structure and composition. Its purpose is to provide some background to later chapters which follow with separate analysis of each component of the oil industry.

2.1 BACKGROUND

The Canadian petroleum industry can be usefully broken down into four separate sectors: the Upstream or production sector; Refining; Product Distribution or Marketing; and the Transportation of crude (from producers to refineries) and of product (from refiners to wholesalers and retailers).

It is useful to isolate the industry components this way when analyzing a certain issue, such as, for example, the factors determining the pump price of gasoline. For example, the cost of crude in the upstream sector, the refinery utilization rate, the product transportation facilities available and the number of retail outlets all can affect the pump price of gasoline. Thus, each link should be studied separately.

If no company operated in more than one sector, then analyzing each sector individually would be sufficient. However, since the largest and best known oil companies have interests in all sectors, from the exploration for crude to the distribution of gasoline through retail outlets, then one must also look at the industry as a whole. For example, if one was to look solely at the number of participants in the marketing sector, it would appear that the area operates under effective competition. However, considering that approximately 90% of the outlets are owned or operated under the brand of integrated refiner/marketers, the refiner wholesale price to outlets, company price support programs and the view of some integrated firms that downstream (refining and marketing) margins may be used to support the activities of the company as a whole, the sector may no longer appear so price competitive. Consequently, looking at a sector in relation to others can provide a better insight into the actual workings of the industry.

While the industry sectors are related, each remains unique with regards to levels of competition, concentration, structure, location and profit levels. For example, while the upstream sector has many participants and is located primarily in Western Canada, the refining sector is highly concentrated with plants dispersed across the country.

Certain parts of the Canadian petroleum industry are highly concentrated, with a few firms accounting for a relatively large share of the market. While efficiency requirements at times dictate the need for high concentration levels, such levels also raise public policy concerns over their effect on competition.

The final report by the Restrictive Trade Practices Commission on Competition in the Canadian Petroleum Industry describes the structure of Canada's petroleum industry as being like "an hourglass: crude oil flows from many producers through a few firms owning trunk pipelines and refineries and out to a larger number of firms distributing the refined products".[1]

The following sections provide the reader with a brief overview of the constituent parts of the Canadian petroleum industry.

2.2 THE OIL INDUSTRY COMPONENTS

2.2.1 The Upstream Sector

The upstream sector includes the exploration, development and production of crude oil, natural gas, natural gas liquids and sulphur.

Canada's top oil and gas liquids producers are shown in Table A1. In 1985 the top five producers were Imperial Oil, Texaco Canada, Dome Petroleum, Petro-Canada and Gulf Canada, in that order. As the table indicates, the volume produced by the top five has declined over the past decade, from 44% in 1975 to approximately 37% in 1985. This is partly due to federal government incentives which encouraged exploration and production by Canadian-owned firms. The top 20 firms made up about 75% of 1985 output with the remaining production being shared among several hundred smaller producers.

Table A2 contains production data for major integrated companies (Imperial, Texaco, Petro-Canada, Gulf and Shell). In 1985 they accounted for approximately 34% of total Canadian oil and liquids production, a slight decline from 1975.

Although the majority of crude production is concentrated in the hands of relatively few producers, the upstream sector may be the most competitive in the whole petroleum industry.

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[1] Government of Canada, Restrictive Trade Practices Commission. Competition in the Canadian Petroleum Industry. 1986, (hereafter referred to as R.T.P.C.) p.19.

This is due to the international marketplace crude producers operate in following the deregulation of oil prices in 1985. The risk of being displaced by foreign crudes domestically and the need to be competitive in export markets results in Canadian crude oil prices being set by international market forces. See Part III for further elaboration.

2.2.2 Refining Sector

Following the Petro-Canada purchase of Gulf Canada's Western Canada assets in 1986, only 12 companies (7 of which are foreign-owned) are involved in the Canadian refining industry.[2] As shown in Table B1, the companies operated 28 refineries in 1986, including two asphalt plants. All 11 firms, not including Petrosar, participate in the marketing sector and most are vertically integrated back into the exploration and production of crude oil.[3]

The refining industry requires substantial capital investments to realize economies of scale and to adjust to technological and demand factors. Economies exist since both capacity and its rate of utilization can usually be increased with a less than proportional increase in capital and labour costs. The result is fewer and larger plants which can process greater volumes at lower investment costs per barrel of oil.[4] Therefore, the geography and population of Canada, especially in Western Canada, makes it difficult to efficiently operate refineries in more than a few dispersed locations.

A recent problem facing refiners is a decline in demand for petroleum products. From 1950-1980, the refiners greatly increased capacity in response to increased product consumption and domestic crude oil production. However, increased product prices, government incentives, the recession and more fuel efficient automobiles have led to a substantial drop in demand in the 1980s. The result was a problem of excess capacity relative to demand and low refinery utilization rates.[5]

As shown in Table B1, the Canadian refining industry has experienced a significant reduction in the number of participating firms, plants and in operative capacity. Since 1980, 11 refineries with a total crude capacity of about 83,000 m^3/d have been closed down (Table B2). This reduction in capacity reflects an attempt to eliminate less efficient plants, increase utilization rates and increase profitability. During the same period, two refineries with a combined capacity of approximately 12,400 m^3/d have been opened.

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[2] Including a Petrosar refinery which produces mainly petrochemical products.

[3] R.T.P.C., p.22.

[4] R.T.P.C., p.197.

[5] R.T.P.C., p.23. See also Table B6.

Table B3 contains information on the refining capacities of the major integrated firms. As it shows, the "majors" (Petro-Canada, Esso, Gulf, Shell and Texaco) dominate the Canadian refining industry controlling more than 60% of total capacity and operating 19 of 28 plants. If Irving Oil is included the top five refiners account for about 75% of total Canadian refining capacity. As shown in Table B4, the levels of concentration in the refining sector have increased over the past several years.

The refinery closures, scale economies and the use of pipelines to transport refined products over greater distances has resulted in high levels of concentration in the Prairies. As shown in Table B5, the major oil companies have controlled approximately 80% of total refining capacity in the Prairies for a number of years.

2.2.3 The Marketing Sector

Table C1 provides information on the number of gasoline outlets in Canada. As the table shows, retail sales of gasoline and other motor fuels is dominated by refiner/marketers or those companies integrated in both the refining and marketing sectors. Over 90% of retail product outlets in Canada are owned by or operated under the brand of a refiner/marketer while the remaining outlets are owned by unintegrated retailers which sell under their own brand name. The majors (Shell, Imperial, Gulf-pre 1986, Petro-Canada and Texaco) operate approximately 65-70% of all outlets in Canada. (See Table C2.)

As shown in Table C3, Shell, Imperial, Gulf, Petro-Canada and Texaco account for the majority of outlets in the Prairies. In 1986, they operated 69% of the total outlets, down from 78% in 1980.

The retail gasoline market in Manitoba is also highly concentrated. Table C4 indicates that over 75% of the retail outlets in Manitoba sell gasoline under the brand name of the top four companies -- which are all major integrated firms.

Retail outlets selling products under the same brand can be further differentiated by the type of ownership and contractual arrangement involved. The station operator may own the outlet outright, lease it from the company or simply be the agent in a company-owned station. The outlet could also be on consignment or some other form of dealer support program. The form of ownership, contractual arrangement and support program, if any, help determine the degree of independence (in terms of pricing and operating strategy) an outlet has from the refiner.

In general, the trend has been towards fewer leased stations, more company owned and operated stations and more outlets owned by independents or non-refiners. Overall, the number of retail outlets has decreased substantially over the past decade as larger marketers implemented "rationalization" programs, closing low-volume high-cost outlets and opening more efficient high-volume outlets.[6] As Table C1 indicates, the refiner/marketers have reduced their number of outlets by 21 per cent since 1980. In contrast, the non-branded independents have increased their number of outlets by about 13 per cent over the same period.

Price competition in the marketing sector has two main sources: unintegrated or independent marketers; or branded dealers. Competition initiated by or responded to by the branded outlets usually has been the result of decisions made by the respective refiner/marketer. In such cases, excess refining capacity may induce a refiner to cut prices at either the wholesale or retail level (through company owned outlets or in outlets on consignment) or both. A refiner may also reduce prices to maintain the company's market share in times of reduced consumer demand or to respond to competitive pressures from other outlets. In contrast, branded dealers themselves have little margin to 'play with' for purposes of aggressive price competition.

A potential source of competition in the retail market is the independent reseller. Since their pricing and marketing strategies are normally made independent of the refiner/marketers and because they have access to lower priced wholesale gasoline than branded dealers have, independents can be an important market force. Consequently, service innovations and retail price competition may occur to the benefit of motorists.[7]

However the degree of price competition an independent can engage in is restrained by at least three factors: fear of retaliation from other market participants; the difficulty of exit when costs are not covered; and security of supply.

Secure and long-term supplies is a requirement of all retailers. This may lead an independent to contract with a refiner for long-term supplies at a price that is higher than others available through imports or "spot" deals.

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[6] Oilweek, June 2, 1986, p.10.

[7] However, independents, often the larger chains, may enter into management and agency contracts that result in the refiner/marketer effectively managing the independent outlet while guaranteeing a profit to its owner. This practice was a particular concern to the Restrictive Trade Practices Commission which stated that this, along with exclusive dealing contracts and the increase in the relative volumes sold through company owned and operated outlets, results in increased powers for refiners to set pump prices centrally (R.T.P.C., pp.318-321).

Another factor that can restrain price competition by independents is ease of entry and exit from the marketplace. This factor is related to security of supply. The major feature which determines the ease of entry and exit is the size of the start-up costs; which, unlike branded outlets that can lease to use the assets and equipment of oil companies, independents must finance themselves. If these fixed capital costs are low or non-existent, an independent outlet can operate when it so chooses since it need not make payments on its fixed costs. Since in most cases fixed capital costs are high, independents, especially smaller ones, must operate continuously and make sizeable payments. Thus, 'true' independents need secure long-term supplies and in times of price-wars do not have the luxury of guaranteed margins that branded outlets have.*

2.2.4 The Integrated Major Oil Companies

The Canadian petroleum industry is dominated by several vertically integrated firms (firms operating in more than one sector). The largest and best known firms such as Imperial Oil, Shell Canada, Texaco and Petro-Canada are active directly or through subsidiaries in the exploration, production and transportation of crude oil, natural gas liquids, and the refining, transportation and marketing of petroleum products. An example of a smaller integrated firm is Turbo Resources which owns a relatively small refinery in Calgary and operates some 240 retail outlets, primarily in Western Canada.

Only integrated firms are involved in the refining sector, with the majority of their product being sold through their own wholesale and retail outlets. As previously mentioned, structural constraints ensure that only a small number of firms are active in this sector.

While the integrated firms share many of the views of non-integrated firms, they also have concerns unique to their situation. Since they are active in all areas of the petroleum industry, they are concerned with the health of each individual sector. However, since they are a integrated firm, the bottom line is the financial health of the company as a whole. So while they share the concern of small non-integrated crude producers over the fall in oil prices, they may be able to take advantage of lower input costs and increase their margins on the downstream (refining and marketing) end.

Another feature of most integrated companies is their large size. Their size, combined with the high levels of vertical integration and concentration in the industry, raises public policy questions regarding the effect of their influence on the marketplace. Although these features are to a degree functions of the Canadian market, they have been and probably will continue to be a point of concern with the public and policy makers alike.

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* Some 'independents' choose to enter into contracts involving price support by their suppliers.

2.3 SUMMARY AND CONCLUSIONS

The petroleum industry has a high degree of visibility in Canada; partly due to the important part they play in the economic well being of the country, and partly due to highly visible products such as gasoline which have become a regular and necessary part of our lives.

The industry itself is varied and complex. It is made up of companies that range in size from the smallest oil drilling firm in Alberta to the largest integrate which operates in all sectors across the nation. The chain of events from the time the crude leaves the ground to when we gas-up our cars is not as simple as it may appear.

In summary, the distinct nature and performance of the various industry sectors (and of the companies within each sector) makes it somewhat incorrect to refer simply to "the industry" when analyzing or making reference to a certain aspect or sector of the Canadian petroleum industry. By viewing it as separate sectors, it aids in the analysis of its operations. After viewing it as individual entities, one can again observe it in a broader sense when the need arises.

PART III

UPSTREAM

Chapter 3

CRUDE OIL MARKETS

3.1 INTRODUCTION

This chapter briefly traces recent developments in both international and Canadian crude oil prices. The effect of government involvement and international market forces are briefly discussed, as well as what, for the purposes of analysis, can be considered as the proper market price for Canadian crude.

Examination of crude oil markets is useful because crude is one of the most important cost components of gasoline. It is therefore important to examine the conditions under which the price of crude used to produce gasoline in Canada is determined.

The chapter first reviews briefly the development of the international oil market and what effect it has on the Canadian crude postings (Section 3.2). This is followed by a brief discussion of the the Canadian market, from the time of government control to deregulation in 1985, also touching upon the question of which crude price is relevant for analysis of Canadian gasoline prices (Section 3.3), and by a short summary and conclusions (Section 3.4).

3.2 INTERNATIONAL OIL MARKETS

The international oil market, virtually controlled by OPEC in the seventies, gradually slipped out of this condition and began a substantial decline in crude prices towards the end of 1985. In November of 1985, international crude prices were about $42 Cdn. per barrel; by March 1986, crude prices had hit a low of about $14 Cdn. per barrel. By the middle of 1986, prices had recovered somewhat, but remained volatile and below 1985 levels; for the rest of the year prices ranged from $15-25 Cdn. per barrel.[1]

Figure 32 summarizes price developments in the international spot crude oil market since mid-1985: the crude oil price[2] in the second half of 1985 averaged about $38.20 Canadian per barrel; the average in the first quarter of 1986 was $24.59; the average for the rest of 1986 was $19.39; and the average for the first quarter of 1987 was $24.24.

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[1] Petro-Canada 1986 Annual Report.

[2] Benchmark crude (West Texas Intermediate, and Brent.)

The dramatic drop in crude prices in 1986 has resulted in vastly lower crude acquisition costs for Canadian refiners. Crude cost is a major component of product prices, such as gasoline, at least in the long run.

The fall in refinery crude costs was clearly substantial; at $42 Cdn per barrel, crude costs account for at least 26 cents of the per litre pump price; [3] at $14 Cdn per barrel, crude costs account for only 9 cents per litre; while $20 per barrel results in crude costs of about 13 cents per litre at the pump.

Whether pump prices in Winnipeg actually fell with the expected timing and amount is one concern of this Commission; later in this report a tracking model will be used to help determine the proper cost effect of the fall in crude prices on the price of gasoline.

Predictions about future developments in international crude oil markets abound, given the importance of the commodity and the uncertainty associated with OPEC's efforts to regain control of its supply,[4] and the risk of interruptions of supplies from the Persian Gulf due to the Iran-Iraq war.[5] Beyond these uncertainties fundamental world demand factors appear to point towards weaker demand in the future compared to demand levels in the 1970s while fundamental world supply factors appear to indicate sufficient supply at least for the medium term. One therefore could hazard a guess that, ceteris paribus, fundamental conditions do not appear to justify expectations of definite trends in crude oil prices in the near future. Generally, then, one may expect international crude oil markets to hover around current price levels for some time. However, caution is advised since the volatile factors of OPEC and the Iran-Iraq war may serve to falsify this prediction completely.

From the point of view of Canadian oil producers, international crude oil markets appear not only competitive[6] but also subject to volatile and unpredictable jumps given the destabilizing influence of OPEC countries in their attempts to regain control of the international supply of crude. If these efforts do not materialize, international crude oil markets will continue to exhibit the basic characteristics of competitive commodity markets; that is, a degree of volatility, along with some short-sightedness, in the sense that current prices may be lower than long-term supply conditions warrant. But even if OPEC producers regain control of supply, Canadian producers will continue to be helpless to affect international crude prices in a substantial manner. From the point of view of this study, therefore, it may be useful to consider world prices as externally determined.[7]

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[3] Assuming that apportionment of costs is according to quantities produced. See Appendix C.

[4] See for example, Globe and Mail, August 6, 1987, p. B29 ('Crude oil futures prices fall amid ample stocks').

[5] See, for example, Winnipeg Free Press, August 4, 1987. ('Gulf tension drives oil past $20 US'), and Globe and Mail, July 24, p. B15 ('US energy futures drop in reaction to lull in Gulf').

[6] In the sense that Canadian oil companies are unable to affect international market prices for crude oil.

3.3 THE CANADIAN CRUDE OIL MARKET

Before deregulation, the Canadian oil market was isolated (through regulatory measures) from international developments and followed its own path. Prior to the early 1970s, Canadian oil prices exceeded international prices as a consequence of the federal government's National Oil Policy (NOP). Following the first OPEC crisis in 1973, Canadian oil prices were held below international prices through domestic crude oil price controls, export taxes and by compensating Eastern Canadian refiners who relied on the then higher priced foreign crudes. Following the National Energy Program (NEP) in 1980, domestic crude prices were gradually allowed to increase towards international price levels. The NEP remained in place until the signing of the Atlantic and Western Accords in 1985 which ended government intervention in the pricing of domestic crudes.[8]

After June, 1985, when domestic crude prices were deregulated, Canadian oil prices began to follow international trends as refiners found it necessary to post prices competitive with Chicago export markets and with competing international sources of supply in Montreal. Thus, Canadian posted prices for Canadian par crude at Edmonton did, after a short period (about 5 months) end up tracking North American spot bench mark crude prices fairly faithfully.

It was the working hypothesis of the interim report of this Commission that the average of spot crude prices as indicated in Figure 32, was a reasonable approximate indicator of posted prices of Canadian refiners in the first quarter of 1986. It therefore used, for purposes of analysis, an average of spot crudes and Canadian postings. Figures 3 (in $/bbl) and 34 (in c/l) support this approach. One can of course point out some differences between posted price and spot market prices. But for the purpose of ascertaining approximate movements in product prices such differences are not important; barrel prices must differ by at least $1.60 per barrel in order for proportionally allocated[9] costs of gasoline to differ by approximately 1 cent per litre. Differences between spot market prices and average Canadian posted prices have rarely, if ever, exceeded 1.6 dollars per barrel in the period under consideration. In fact, the average Canadian par posted price is CDN $26.21 for the whole period, while spot crudes averaged $26.71 in the same period.

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[7] Though this does not necessarily establish international crude prices as products of effective competition as defined in Chapter 1.

[8] See, for example, R.T.P.C., pp.30-33.

One could still argue that the proper prices to consider are delivered prices, and not spot prices; the former embody transportation costs, and are also adjusted for delivery lags. However, when the purpose of analysis is to consider differences in price from one point in time to another, the inclusion or exclusion of a virtually constant transportation cost makes no difference to the results of the analysis.[10]

Delivery lags of spot crudes to Chicago are so close to the respective delivery lag of Canadian par crude (5 weeks for spot crudes, 4 weeks for Canadian par) that, once again, one may safely compare spot (undelivered) prices unadjusted for delivery without much loss of precision.

The working hypothesis is still, therefore, that North American spot crude prices and the posted price of Canadian par crude have been quite close together in the period under consideration, and are therefore interchangeable. Since, however, some industry spokesmen prefer the use of Canadian par postings, crude prices used in analysis herein will be mainly represented by Canadian average postings, which may be regarded as good representations of world oil prices.[11]

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[9] 'Proportionally' means allocation of costs in direct proportion to quantities produced. See Appendix C for methods of allocation of joint costs to products.

[10] The Ministry of Energy, Mines and Resources of the Federal Government adjusts WTI spot prices to delivered prices in Chicago by adding U.S. 45 cents/barrel for 1985-86 and 53 cents/barrel for 1987; the respective costs for Brent are U.S.$1.24 for 1985-86 and $1.43 for 1987. Transport costs for Edmonton crude to Chicago vary from about CDN$1.10 to CDN$1.27 in 1985 and 1986.

[11] The terms of reference of the Commission included consideration of these latter prices, which is why they were used in the interim report.

3.4 SUMMARY AND CONCLUSIONS

Canadian crude oil prices in the 70's and 80's have been set by two different sources: originally by the policies of the federal government; and recently by the dynamics of international markets.

Since deregulation, international, rather than domestic, market forces determine the price of Canadian crude. Since about January 1986, the Canadian postings at Edmonton have generally followed the spot prices at Chicago, the chief North American export market. Crude costs, therefore, are determined not by Canadian producers but outside the country, and will be taken as externally given in this investigation.[12]

The dramatic drop in crude pri[illegible] in 1986 has resulted in vastly lower crude acquisition costs for Canadian refiners. Crude cost is a major component of product prices, such as gasoline, at least in the long run.

The fall in refinery crude costs was clearly substantial; at $42 Cdn per barrel, crude costs account for at least 26 cents of the per litre pump price; [13] at $14 Cdn per barrel, crude costs account for only 9 cents per litre; while $20 per barrel results in crude costs of about 13 cents per litre at the pump.

Whether pump prices in Winnipeg actually fell with the expected timing and amount is one concern of this Commission; later in this report a tracking model will be used to help determine the proper cost effect of the fall in crude prices on the price of gasoline.

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[12] Though this does not necessarily imply that these costs are determined under conditions of effective competition.

[13] Assuming that apportionment of costs is according to quantities produced. See Appendix C.

PART IV

WHOLESALE MARKETING

This part of the report concentrates on the wholesale marketing sector of the oil industry, with three main themes. First, refiners' apparent margins are examined (Chapter 4) to find out whether their levels have been satisfactory over time, and to examine their behaviour after crude oil prices fell in 1985-86. Second, price developments in the Canadian market and in selected U.S. markets are compared to developments in the Winnipeg wholesale market (Chapter 5). Third, a number of factors possibly important for effective competition at the wholesale level are discussed (Chapter 6). Finally, the conclusions are summarized (Chapter 7).

Chapter 4

REFINERS APPARENT MARGINS

4.1 INTRODUCTION

For the purpose of this study, "refiners' apparent margin" will be taken to mean the difference between the revenue refiners collect from gasoline, and the cost of crude oil to them. From this margin, the refinery is expected to cover other costs, and make profit. Crude costs to refiners will be represented by the regional acquisition costs of crude oil as reported by the major oil companies. Revenue from that crude will be indicated by the average price collected by major refiners on sales of gasoline to various categories of buyers,[1] also as reported by these companies.

The analysis of this chapter has three objectives: first, to examine the evolution of refiners' apparent margins before 1985 with an eye to determining whether 1985 was a year of depressed margins in comparison to past years; second, to examine whether pre-1985 margins were chronically low; and third, to examine the behaviour of these margins in the period after the crude price collapse.

The condition of margins during 1985 is important. If they can be considered to have been normal, the relation between crude costs and wholesale product prices in that year can be considered normal, in which case it would be difficult to accept that the second half of 1985 was a time of price-war at the wholesale level.

Second, if the pre-1985 margins were not chronically low, one cannot blame the low rates of return of the industry during the eighties on these margins, but must place the burden on excess capacity and associated high costs of refining, as opposed to narrowing margins between material costs and revenue.

Finally, margin increases in 1986 and beyond would indicate that lower crude price savings experienced in that year were not passed on fully to wholesale prices.

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[1] Including, but not only, branded dealers. Other publications portray revenue as if all gasoline is sold to branded outlets, i.e. they calculate apparent margins from sales through these outlets only. These margins are higher than those reported here, since prices to branded dealers are higher than the average price realized by refiners on all gasoline sales.

The examination of margins in a period of changing prices is subject to two considerations: first the lag between the acquisition of crude oil and the sale of refined products may have to be considered and, second, the data must be sufficiently fine in terms of length of time period in order to observe the fall in detail.

Regarding the lag, acquisition costs used in this analysis are reported by refiners at the time the crude is received at the refinery door. Therefore, the time necessary to transport the crude from the wellhead to the refinery need not be considered here. This means that all refineries using FIFO, and delaying price changes to reflect cost changes as recorded by this inventory valuation method[2] should be subject to a common average lag reflecting the time necessary for an average barrel to go through the refinery system. This lag would not be affected by the location of each refinery. We shall set this lag to two months, a rather favourable length for the industry, particularly in view of formal industry responses to the Commission regarding the total lag (well-head to pump) for the Prairies.[3]

Regarding the detail of the data, both the regional realized prices used to determine the revenue received by refiners and the acquisition costs are lacking detail in the sense that the data is reported on a monthly basis. Since crude prices were quite volatile during the period of falling prices, ideally the revenue data should be on a weekly if not daily basis if one wishes to observe the fall in detail. Because of this weakness, the analysis herein stops short of examining the behaviour of margins during the fall in crude prices, and instead examines them only before and after the price fall.

4.2 MARGINS BEFORE 1986

The movement of acquisition costs of Canadian refineries over time is represented in Figure 35. The figure shows an increasing trend in costs from January 1982, when the average cost per litre was 20.03 cents, for Canada as a whole, to 23.67 cents per litre in June, 1985, the beginning of the deregulation period. Acquisition costs hovered around that area for the rest of 1985 and started falling, to a low of 10.67 cents per litre, in July 1986.

To determine the average apparent margin of refiners over time, the data on wholesale prices of regular gasoline to all categories of purchasers were compared to acquisition costs over the period from 1982 to 1986. The Canadian average of refiners' margins is presented in Figure 1. The figure shows fairly constant margins during the period, indicating a fairly constant relationship between raw material costs and selling prices of refiners.

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[2] See section 6.3 below

[3] See Appendix B, question no. 18, and Section 10.4 below.

Figure 36 illustrates the wholesale prices, acquisition costs and the apparent margin for Ontario refiners. The average apparent margin over the period January 1982-December 1985 appears to be in the range of 5.99 cents per litre.

From Figure 37 we see that the apparent margin of the Prairie refiners was higher for the same period, 8.71 cents per litre. So was the apparent margin of B.C. refiners (8.23 c/l).

Figure 2 summarizes the relative position of the Prairie refiners vis a vis the refiners of the rest of Canada. As is plain from the figure, since 1983 the apparent margin of Prairie refiners has been historically higher in comparison to the Canadian average. This condition points to the fact that the Prairies is a region in which refiners do not face as stiff competition as they do in other areas of the country. Thus, despite the fact that Prairie refiners probably have lower acquisition costs (their transportation costs would be lower, as expected from their proximity to the source of crude), they nevertheless manage to charge relatively higher prices for products.

The Commission finds it difficult to justify higher refiner apparent margins for the Prairies, particularly in view of the fact that they have generally operated with a higher degree of plant utilization, and, moreover, Prairie refineries employ mostly modern technology.

Regarding the cost of refining gasoline, the industry has stated that typical operating costs for refining a litre of gasoline stand in the two to three cent area. Given this, it is hard to avoid the conclusion that Prairie refiners (if not all Canadian refiners) enjoyed a fairly stable and healthy margin during the four-year period from January 1982 to December 1985. The margin appears healthy, at least in comparison with the average Canadian margin.

The above conclusions are also supported by other analyses; according to one such analysis, "Western Canada, where the refining and marketing industry achieves some of the highest returns in the industry anywhere in the world, will be shielded from imports because of its geographically land-located position (the exception being B.C.)".[*] According to the same source, Western Canada refiners' net margins are U.S. $2.71/bbl, compared to US $0.54/bbl for eastern Canadian refiners, $0.36/bbl for U.S. Gulf coast refiners, $-1.75/bbl for Rotterdam and $-2.60/bbl for the middle east.

It is of course recognized that if excess capacity and the associated low utilization rate of refineries are present, this or even a higher per litre margin between raw material costs and revenue might not be sufficient to provide adequate refinery returns. But in such a situation it is not the relationship between raw material cost and the selling price of the product which is at fault, but the under-utilization of equipment which causes higher costs per unit of operation. Surely, a margin of 8.71 cents per litre for the Prairie refiners cannot be considered deficient under normal operating rates, when B.C., Ontario and probably American refineries[5] all operate under lower apparent margins, and when it costs only 2-3 c/l to refine a litre of gasoline.

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[*] The Canadian Refining and Marketing Industry: A New Era of Growth. R. Robinson and D. Mathieson, R. H. Robinson and Associates Ltd., April, 1986, p. 37.

4.3 MARGINS AFTER THE CRUDE PRICE COLLAPSE

Assuming a two month lag between the acquisition of crude and its sale overstates the lag involved in the refinery operation, as has already been stated. Unfortunately, the data is monthly and it is not easy to apply finer divisions of the lag. As a consequence, analysis of margins during the period of the price collapse would show lower margins than if the lag was assumed to be shorter.[6]

Even with such a long lag, Prairie margins during the period of price collapse increased continuously, as is seen in Figure 2. The Canadian average dips to about 6 cents and recovers immediately after to 11 or about 12 cents.

Taking an average of margins after December 1985, one observes considerable improvement all around. For example the average Canadian margin between 1982 and December 1985 was 7.88 cents per litre while after that it rises to 9.92 cents per litre. The Prairie margin, on the other hand, rises from 8.71 to 12.34 cents per litre.

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[5] In an attempt to compare Canadian to American refiner's apparent margins, American refiner's rack prices may be compared to average acquisition costs in the States. These data are presented in Figure 38 (which shows the United States acquisition costs, and rack prices in Minnesota, Illinois and New York) and Figure 39 (which shows the apparent margins in the three states as differences between racks and acquisition costs). Unfortunately, acquisition costs are not specific costs of state refiners (in Minnesota, Illinois and New York) but average United States acquisition costs; moreover, revenues are calculated on the basis of prices to resellers (rack prices), and therefore these data produce margins not strictly comparable to the Canadian margins just calculated. These two problems reduce the usefulness of these data. The average refiners margin derivable from these data is 6.34 cents per litre for Minnesota, 5.47 cents per litre for Illinois and 6.32 cents per litre for New York for the period examined (January 1983 to the first half of 1986).

[6] Given the difficulty of applying a finer lag, no conclusions will be drawn about the behaviour of margins during the price collapse.

Thus, for the very short period that data are available after December 1985, it appears that the refiners' apparent margins across the country are above their historical average. Note, however, that Prairie margins increased more than average; an increase of 41% over the average 1982 to 1985 figure versus 25% for the Canadian average. The implication for the lower degree of responsiveness of Prairie wholesale prices to lower crude costs is obvious.

This same result is also derived in the next chapter, using a different method of determination (wholesale price differentials).

Chapter 5

WHOLESALE GASOLINE MARKETS

5.1 INTRODUCTION

In this chapter, we first examine Winnipeg wholesale prices in relation to other Canadian prices (Section 5.2) and also in relation to U.S.A. wholesale prices (Section 5.3). One purpose of this exercise is to detect whether Winnipeg wholesale prices deteriorated relative to other areas during the period under study; another purpose is to see whether any markets in geographical proximity to Manitoba happen to operate under forces of more or less effective competition. If such is the case, the next step would be to attempt some connection of the Manitoba market to the market with effective competition.

5.2 CANADIAN WHOLESALE PRICES

Datawise, the Commission has had at its disposal two types of wholesale price indicators: first, the weekly rack prices as published by two major oil companies since mid-1985; and second the realized (actual transaction) prices received by refiners from various categories of buyers of refined products[1] and reported monthly. Both these data are used in this section to examine whether Winnipeg's position deteriorated relative to other cities in the period studied.

5.2.1 Developments in Wholesale Posted Rack Prices

In June, 1985 Esso Petroleum Canada introduced the concept of "rack pricing" for its wholesale dealings with unbranded independent accounts. This published rack price (for some minimum volume of purchases) was meant to be the lowest price independent resellers could obtain (i.e. no further discounts). Shell Canada followed by publishing its own rack prices and Ultramar and Sunoco introduced rack prices soon thereafter. However, other companies (for example, Petro Canada) did not follow the practice.

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[1] Branded retail outlets, Commercial and Industrial, Consumers, Resellers and Others.

The movement of rack prices (average of Esso and Shell) in various Canadian cities over time is shown in Figure 40. The thickest solid line (line 4) represents Winnipeg rack prices. On the other hand, Figure 5 shows the average of Winnipeg rack prices against the average of all other city racks, and the average of crude oil prices (spot WTI and Brent).

It is clear from these Figures that Winnipeg[8] rack prices were in the middle of the rack price range between June 1985 and about February 1986. After that they stayed above all other rack prices in Canada. Only later (towards the end of 1986) did they start to fall and to converge within the range of other Canadian rack prices. More interestingly, Winnipeg[9] started falling when all other Canadian rack prices were either static or rising, and when crude costs[10] had also started rising, as the Figures show.

It is the working hypothesis of the Commission that there is no apparent economic reason for the static behaviour of posted rack prices in Winnipeg between March 1986 and approximately October 1986, the period when all other Canadian racks were falling. Neither does there appear to be an economic explanation for the fall of Winnipeg rack prices thereafter, when other rack prices across Canada were either stable or rising in response to higher crude costs.

One note of caution may be in order here. According to comments reported informally to the Commission by at least one oil company spokesman, rack prices may not reflect exact transaction prices of refiners to unbranded resellers, particularly in the Western Provinces. This is apparent in Figure 41 which illustrates the difference between rack prices as posted and transactions prices as realized by refiners in the Prairies (Winnipeg) and Ontario (Toronto).[11] From this figure, it is clear that the average prices actually received by refiners from independent resellers averaged above rack (0.94 c/l) for most of the time in Ontario.

However, the data also indicate that realized prices of refiners to resellers in the Prairies were almost always below published racks for the whole of 1985 and 1986. The discrepancy averaged 2.23 c/litre below rack and ranged from 5.20 c/l below rack to 0.07 c/l above rack.

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[8] and Regina.

[9] and Regina.

[10] Lagged 8 weeks.

[11] It should be pointed out that exact comparisons of rack and realized wholesale prices are complicated by at least two factors: actual realized prices of refiners to independent resellers are reported monthly while rack prices are reported weekly; and actual realized prices of refiners are reported regionally while rack prices are reported for each individual city.

This supports the informal suggestion that Winnipeg racks are not yet "mature". In addition, realized prices to resellers are below rack in all regions other than Ontario/Toronto.[12] It should be added, however, that the formal response of at least one major[13] makes no reference to actual prices being below rack.

5.2.2 Developments in Refiners' Wholesale Realized Prices

As mentioned above, another, perhaps more accurate indicator of wholesale prices in the Prairies are the Canadian regional realized prices for regular gasoline as reported by the major oil companies. As Figure 42 indicates, Prairie refiners' wholesale realized prices for regular gasoline to all categories of buyers (from small commercial accounts to large independent resellers) moved more or less in unison with prices of all other regions between January 1980 and January 1983. After that Prairie realized prices tended to move to approximately the middle of the band (below the Atlantic region prices and sometimes below the Quebec prices). Notably, however, after the major fall in the first part of 1986, the average realized prices of Prairie refiners stood above those of every other region except the Atlantic.

It appears, then, that after February 1986 both posted racks to resellers and actual wholesale prices of Prairie refiners to all buyers moved from about the middle of the range of Canadian prices to almost the top. To justify this change in the relative position, one must present some change in the competitive conditions of the Prairie wholesale market relative to other markets. Since no such change has been advanced by the companies (which are closest to that market) it seems fairly safe to conclude that the market allowed some degree of price control in the Prairie region during that period.

5.3 EXPORTS OF OIL PRODUCTS

Exports of petroleum products after deregulation, and average export prices of gasoline, are shown in Tables E1 and E2. Comparisons of export prices with wholesale prices to branded dealers and independent resellers is in Table E3. Finally, Table E4 shows Prairie exports as % of total production.

While some exports of gasoline from Prairie refiners occurred at prices much lower than those available to branded dealers and resellers (see Table E3) in 1986, the amounts exported were only a small part (2-4%) of total Prairie refinery production (see Table E4). The significance of these exports is therefore small; the fact that they had to be carried out at such low prices mirrors the fact that Winnipeg wholesale prices did not respond as promptly and as much to crude price changes as the U.S. prices did.

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[12] This does not mean that Toronto resellers bought consistently at or above rack; it only implies that Ontario resellers as a whole did, on the average, pay prices above Toronto rack.

[13] See Appendix B, question no. 10.

5.4 SELECTED AMERICAN WHOLESALE MARKETS

In this section, wholesale prices of selected American refiners are examined to see whether competition in their markets forces them to price relatively more sensitively than their Canadian counterparts.

Figure 7 illustrates the behaviour of wholesale prices (racks) in Minnesota, Illinois and in New York. The price of New York harbour wholesale gasoline is also shown. From the Figure it is difficult to escape the conclusion that American refiners' rack prices in New York, Illinois and Minnesota generally follow the wholesale price of spot gasoline in New York harbour.

On the other hand, Figure 9, which includes the New York harbour wholesale price, the Grand Forks rack price, the Winnipeg rack and the realized prices of Prairie refiners, shows that while racks at Grand Forks generally track spot prices of gasoline at New York, wholesale prices (both rack and realized) of Prairie refiners to independent resellers appear less sensitive to this competitive factor. More specifically, racks have been insensitive, while realized prices to resellers have responded to it only recently.

The sensitivity of North Dakota, Minnesota, Illinois and New York racks to New York harbour becomes yet more interesting when it is noted that New York harbour in fact moves in unison with other international product market prices, such as Rotterdam. (See Figure 31). The chain of interdependence of some American markets is impressive.

The faithful dependence of American racks on the price of gasoline in New York harbour[14] supports the hypothesis that American refiners are subject to competition from refined fuels made available in the international products market. American refiners cannot afford to have their rack prices substantially different from prices at New York harbour due to the existence of a well-organized transportation and storage system which makes competing sources of gasoline available to a large number of independent jobbers and dealers. The result is apparently an example of what the industry means when it says that refiners have to "price their product into the market".

It is important to stress that the influence of international markets extends, through the New York gasoline market, to points just south of Winnipeg. Figure 33 shows rack prices at the end of the Williams Pipeline in Grand Forks, North Dakota and prices in New York and Rotterdam harbours. As can be seen from comparison, rack prices in Grand Forks move together with N.Y. and Rotterdam prices.

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[14] Admittedly with a small lag.

The conclusion can therefore be drawn that wholesale prices at the Williams Pipeline in Grand Forks, North Dakota are subject to the same competitive forces of supply and demand which shape the condition of the American market and associated price of wholesale gasoline in New York City, and that of Rotterdam, Holland, with a small lag, and with a price differential probably justified on the basis of cost.

The obvious conclusion is that while American refiners may have to price their wholesale products into a market that is determined by international forces of supply and demand (as exhibited in the movement of wholesale gasoline prices in New York harbour), Canadian refiners do not appear to have to submit to the same type of market discipline as their American counterparts. This statement appears especially true of Prairie refiners as per Figure 9, and raises questions as to what policies are necessary to promote wholesale competition in the Manitoba market, similar to that ruling the markets in North Dakota and Minnesota. These questions become intensified when it is observed that Ontario wholesale prices are subject to stricter competitive discipline, conforming more or less to Buffalo, N.Y., racks which in turn conform to New York prices (see Figure 10).

Chapter 6

FACTORS AFFECTING COMPETITION AT THE WHOLESALE LEVEL

6.1 INTRODUCTION

This chapter concentrates on a brief examination of factors deemed relevant for competition at the wholesale level. The first section contains a general discussion, while the following one deals with the claim of industry spokesmen that inventory valuation methods affect competitive behaviour.

6.2 THE CANADIAN OIL PRODUCTS WHOLESALE MARKET

Competition at the wholesale level in Canada is limited not only because of the small number of refiners, but also by the fact that the major integrated refiners own or operate 65% of total retail outlets.[15] This allows them to dispose of most of their production through branded retail outlets without having to compete for sales at the wholesale level.

Refiners do compete in a more substantial manner for the business of large independent resellers; as a consequence, the prices offered to resellers are often much lower than prices to their own branded dealers.[16] The major refiners say that the rather substantial differential charge to dealers is required to cover the cost of such services as delivery, credit cards, advertising, business counselling, product quality improvement, use of brand, absence of volume requirements, financing, etc.

The fact that refiners engage in price competition for the business of large resellers does not mean that a small-volume independent reseller would normally be able to strike equally advantageous 'deals'. Thus, a small independent probably operates at a cost disadvantage in comparison to a large one, although his/her wholesale price is usually less than that paid by branded outlets.

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[15] See Table C2.

[16] See Figure 4.

Another area from which some refiners face competition in Canada is product imports. This factor was reported operative in the Toronto market in 1986 and resulted in both wholesale racks and retail prices being forced down to some extent. See Figure 10.

In contrast to the Prairie situation, American wholesale markets south of Manitoba appear highly competitive. One apparently reasonable explanation of the difference in competitiveness of the two wholesale markets may be that the American supply, transportation, storage and distribution system is characterized by a multiplicity of participants competing for business in all stages. In contrast, the Canadian system is characterized by much fewer numbers in all categories. For example, there are at least twenty companies or dealers quoting rack prices for gasoline at the end of the Williams Pipeline in Grand Forks, while there are only two published rack prices for Winnipeg (while admittedly the actual suppliers are at least equal to the number of majors).

In addition, U.S.A. refiners are subject to competition from imported product sources. As a result, wholesale prices are effectively determined by international forces of supply and demand as exhibited in the movement of American rack prices in response to spot wholesale gasoline prices at New York harbour (see below).

6.3 REFINERY INVENTORY VALUATION AND PRICING POLICIES

The Canadian petroleum industry has indicated that the greater responsiveness of the American market to changes in crude oil prices is due to the different method of inventory valuation used in determining cost and therefore taxable income. American companies employ the LIFO (last in first out) method for such purposes. According to this method, the raw material cost of production is calculated on the basis of the latest inventory batch purchased. This method of inventory evaluation allows, on the accounting side of business operations, cost changes to be passed directly and immediately on to the current cost of production and, perhaps, to the asking price of the product. In contrast, Canadian firms utilize the FIFO (first in first out) system of inventory valuation. In this method the current cost of production embodies the purchase price of the oldest inventory available in storage and therefore delays the transfer of variations in raw material costs to the price of current output.[17]

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[17] Consider, for example, crude inventory of 100 units, with four production periods, and assumed replenishable in 25-lot units, one each period. Coming into a period of price change from one of the stable prices, assume that the four 25-unit lots were purchased at a price of $10/unit. If, in the current period, crude prices fall to $8/unit, the batch purchased in this period, the last-in, will be worth $8/unit, while the oldest, first-in batch will be worth $10/unit. The FIFO method would consider material to be worth $10

While it is correct that in periods of fluctuating raw material prices the LIFO method of inventory evaluation makes current production costs more responsive to the current replacement costs of inventory, it does not follow that the wholesale pricing strategies of refiners necessarily correspond to this or any other evaluation method. For example, the data on rack prices of American refiners presented in Figure 7 indicate that wholesale pricing policies of American refiners have been dominated by the availability of competing products from other sources. While it is true that the profit picture of American refiners might have been different had they had to use FIFO instead of LIFO, it certainly does not follow that American wholesale prices moved more responsively because of the differences in inventory evaluation methods; rather, they moved to ensure that local refiners could compete with the prices of gasoline in such large product markets as New York.

Another example which reinforces the above conclusion is the case of Ontario refiners. Industry spokesmen claim that, for the first quarter of 1986, wholesale prices in Ontario were forced below the cost of production for competitive reasons. Implicitly, then, the industry recognizes that effective competition at the market level may force market participants to ignore cost considerations in the very short run. It did not matter, for example, that the Canadian industry used FIFO in Ontario; it priced its products in such a way so that it could compete with alternative sources of supply, and it would have done so regardless of the inventory valuation method in place. As for profits, they would be low in the downside under the circumstances, but they would also be high on the upside, balancing profit performance over the price cycle.[18]

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for the next three production lots, while LIFO would apply the $8/unit lot to the current production cost instead. Thus, changes in costs reflect changes of material prices faster with LIFO, and slower with FIFO. Moreover, _if_ product prices move fast in response to raw material price changes, FIFO will result in higher reported profits in the upswing and lower in the downswing than LIFO; the latter method simply adjusts costs to material prices faster, in both cases, therefore avoiding profit cycles.

[18] FIFO becomes permanently onerous (or beneficial) to profits only if raw material costs have a permanent downward (upward) trend, and product prices move faster than inventory depletion periods.

It must also be recognized that prices of products would not move faster than inventory depletion periods if the world market as a whole used FIFO.

Chapter 7

SUMMARY AND CONCLUSIONS

The results of this part may be summarized as follows:

1. Refiner margins both during and before 1986 were not below historical averages, at least for Prairie refiners, if not for all Canadian refiners, and therefore corrections to rates of return should be expected from adjustments not to these margins, but to other variables. A corollary of this is that lower crude costs should have been followed by lower wholesale prices fully reflecting these lower costs. Instead, some of the crude savings were actually withheld, resulting in higher refiner margins since 1986.

2. Winnipeg posted (wholesale) rack prices of refiners originally followed the downward trend that other cities and regions experienced. However, since approximately March 1986, they remained fairly static while the Canadian average kept falling. This is shown in Figure 5.[19] Thus, while the Winnipeg racks were roughly equal to the Canadian average before March 1986 (higher by 0.05 c/l) they were, on average, 1.48 c/l above that average until at least March 1987.

   Comparison of refiners' total[20] realized prices (for regular leaded) for the Prairies with the Canadian average also shows that Prairie refiners' wholesale prices did not follow the downward trend experienced by most Canadian regions after about March 1986.[21]

3. Import competition is not so pronounced for Prairie refiners because the Prairies (and certainly the Province of Manitoba) are a relatively small market, not accessible by large sea-vessel and not connected to pipeline networks through which a large number of jobbers would be able to transport products cost-effectively from major ports. Moreover, Winnipeg does not have major product storage facilities available to independent

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[19] The Figure illustrates the Winnipeg racks (thin line) and the average of Canadian racks (medium line), along with the price of crude (thickest line).

[20] Average, to all categories of buyers

[21] Figure 6 illustrates.

jobbers.

There is, however, proximity to a competitive pipeline network in Grand Forks, N.D., and use of this alternative may be one way to apply competitive discipline in the Manitoba wholesale market.[22]

4. Competition at the wholesale level in Canada is limited not only because of the small numbers of refiners, but also by the fact that refiners own or operate 65% of retail outlets.[23] This allows them to dispose of most of their production through branded retail outlets, without having to compete for sales at the wholesale level.

   Refiners do compete in a more substantial manner for the business of large independent resellers; as a consequence, the prices offered to resellers are often much lower than prices to their own branded dealers.[24]

   This, however, does not mean that a small independent reseller would normally be able to strike equally advantageous 'deals'.

   Another area from which some Canadian refiners face competition in Canada is product imports. This factor was reported operative in the Toronto market in 1986, and forced both wholesale racks and retail prices down to some extent.

5. While some exports of gasoline from Prairie refiners occurred at prices much lower than those available to branded dealers and resellers (see Table E3) in 1986, the amounts exported were only a small part (2-4%) of total Prairie refinery production (see Table E4). The significance of these exports is therefore small; the fact that they had to be carried out at such low prices mirrors the fact that Winnipeg wholesale prices did not respond as promptly and as much to crude price changes as the U.S. prices did.

6. In contrast to the limited competitive pressures present in the Manitoba wholesale market, gasoline buyers in the also landlocked U.S. mid-west are blessed with a fully developed transportation and product storage system which is accessible to a large number of participants. Consequently, refiners' rack prices in this area follow competitive wholesale product markets (such as that for N.Y harbour gasoline) and spot crude markets closely.[25]

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[22] See Figure 33.

[23] See Table C2.

[24] See Figure 4.

Prairie refiners' wholesale prices to the reseller category respond sluggishly to such influences, though they have converged to the Grand Forks rack particularly since September 1986.[26] Prairie refiners' realized prices for regular leaded gasoline sold to resellers in 1986 and 1987 averaged slightly above Grand Forks for the period.[27]

7. The industry has indicated that the FIFO method of inventory valuation delays price reductions by the time necessary to consume old inventory acquired at higher prices. But when refiners are subject to competition and, in their words, they 'have to price into the market', (as was the case in the U.S. and in Ontario in 1986), wholesale price reductions will take place irrespective of the method of inventory valuation (FIFO or LIFO.[28]

What remains true, however, is that if Canadian refiners were using the LIFO method they would have recorded a different profit picture in 1986 than they did using the FIFO method.

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[25] see Figures 7 and 8.

[26] See Figure 9.

[27] Though at times the Grand Forks racks were substantially lower. See the section on retail markets.

[28] Figure 10 shows that Toronto refiners were subjected to pressure from Buffalo racks and imports therefrom, and responded with lower racks and realized wholesale prices.

PART V

RETAIL MARKETING

This part deals with the retail marketing sector of the industry. Four major aspects of that sector are of interest here: gasoline taxation; retail price differentials (excluding taxes); the speed and the extent of response of Winnipeg retail prices to lower crude costs; and market conditions prevailing in Manitoba, and how to improve them towards effective competition.

Discussion of taxation is important, as taxes may in fact be a source of price differences across different jurisdictions. Examination of *ex-tax* retail price differentials is expected to reveal the relative position of Winnipeg *vis-a-vis* other Canadian and U.S. locations, and any changes to that position in the period studied. The response of retail price to crude costs is important as an indicator of the efficiency with which gasoline markets bring the benefits of lower costs to the consumer. Finally, examination of market conditions in the retail sector is expected to aid in devising policies to improve competition in that sector.

Each of the above subjects occupies a separate chapter in this part of the report. Thus, Chapter 8 deals with taxation of gasoline; Chapter 9 deals with price differentials; chapter 10 examines the speed and degree of response of Winnipeg retail prices to lower crude costs; and Chapter 11 contains some analysis of factors deemed important for competition in the retail gasoline market.

Chapter 8

GASOLINE TAXATION

Any examination and comparison of retail gasoline prices in different jurisdictions faces the additional complicating factor of taxation (provincial and federal taxes in Canada and state and federal taxes in the United States). Since taxes differ from one jurisdiction to another, it is necessary, for proper comparison, to first account for these differences before proceeding with retail price comparisons in Canada and the United States.

8.1 CANADIAN TAXES ON GASOLINE

As of April 7, 1987, Provincial taxes on regular leaded gasoline made up approximately

26% of the Montreal, Que., retail price,
23% of the Vancouver, B.C., price,
20% of the Toronto, Ont., price,
19% of the St. John's, Nfld., price,
19% of the Winnipeg, Man., price,
18% of the Charlottetown, PEI price,
18% of the Halifax, N.S., price, and
16% of the Saint John, N.B., price, and
0% of the Saskatchewan and Alberta prices (no Provincial taxes).

The rest of this section discusses taxation levels as of June 22, 1987.

The federal government in Canada imposes a sales tax and an excise tax on various grades of gasoline. The federal sales tax on both regular leaded and unleaded gasoline stood at 3.55 cents per litre and the federal excise tax at 5.5 cents per litre as of June 22, 1987, making for a total federal tax of 9.05 cents per litre for both grades of gasoline.

Of the provinces, Newfoundland, Prince Edward Island, Nova Scotia, New Brunswick, British Columbia, and Northwest Territories have ad valorem taxes on gasoline. The rest of the provinces, Quebec, Ontario, Manitoba, Saskatchewan, Alberta[1] and the Yukon have flat rate taxes.

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[1] Saskatchewan and Alberta have just introduced gasoline taxes. Saskatchewan residents are entitled to tax rebate.

Table D1 ranks various governments (provincial and federal) in terms of taxes imposed on leaded and unleaded gasoline, as of June 22, 1987. As is shown in the table, Quebec is the highest taxing province for both grades of gasoline, imposing taxes of 14.40 cents per litre for unleaded and leaded gasoline. Newfoundland follows a distant second with 9.80 cents per litre on both grades of gasoline. For regular gasoline, British Columbia has the third highest tax rate (9.09 cents/litre) followed by the federal government, Prince Edward Island, Manitoba and North West Territories with tax rates in the range of 8.70 - 9.05 cents/litre. For unleaded gasoline, the federal government levies a tax of 9.05 cents per litre, making it the third highest tax of its kind in Canada. Other tax rates for unleaded gasoline range from 8.90 cents/litre in Prince Edward Island to a low of 4.2 cents/litre in the Yukon. As the table indicates, Manitoba ranks ninth among these jurisdictions (8.0 cents per litre) for unleaded gasoline and 5th-6th (shared with Prince Edward Island) in terms of leaded gasoline tax rates (8.90 cents per litre).

The change in ranking of Manitoba (from fifth lowest for unleaded at 8 cents a litre to 5th-6th highest for leaded gasoline at 8.9 cents per litre) results from the fact that except for the four highest taxing jurisdictions (Quebec, Newfoundland, the federal government and British Columbia - leaded gasoline) and the two lowest taxing jurisdictions (Alberta and the Yukon) the rest of the jurisdictions are generally clustered in the range of 7-9 cents per litre for both grades of gasoline. Thus, a small difference in the level of taxation in one province can cause its rank to vary substantially.

Given the fact that taxes do not differ substantially for the majority of jurisdictions (differences are one cent for the center of cluster) one could compare prices across Canada without netting them of taxes. Proper comparisons, however, are of prices ex-taxes, especially if the objective is to examine the industry's pricing. In what follows, therefore, we will be comparing prices net of taxes.

8.2 UNITED STATES GASOLINE TAXES

Canadian visitors to the United States face at least three difficulties in comparing gasoline prices in the U.S. with gasoline prices in Canada. First, the price is expressed in American dollars and an exchange rate must be applied to convert it to Canadian currency. Second, the American gallon is smaller than the imperial gallon.[3] Finally, taxes in American jurisdictions differ substantially from taxes in Canada, and among themselves.

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[3] The American gallon has 3.78 litres while the imperial gallon has 4.54 litres.

The reader is referred to data in the Lundberg Letter,[3] which shows how United States gasoline taxes (in US cents per US gallon, and including federal, state and local taxes, adjusted for exemptions) compare to the national average of gasoline taxes in the United States. As of March, 1986 the national average of gasoline taxes in the United States was 23.74 cents per gallon (weighted by volumes of gasoline consumed and adjusted for gasohol exemptions).[4]

The U.S. combined state and federal gasoline tax average of 23.74 (U.S.) cents per (U.S.) gallon corresponds to approximately 8.46 (CDN) cents per litre compared to a combined June, 1987 Canadian provincial and federal regular leaded gasoline tax average of 16.22 cents per litre. State taxes in neighbouring U.S. states are equivalent for leaded and unleaded gasoline, and compare to Manitoba provincial taxes (at 8.00 and 8.90 c/l for unleaded and leaded respectively) as follows: North Dakota, 4.81 cents per litre; Minnesota, 6.30 cents per litre; and Illinois, 4.81 cents per litre. It thus turns out that a substantial portion of Canada-U.S. price differences (about 7.76 c/l on average) can be attributed to different taxation levels in the two countries.

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[3] Volume 13, No.15, February 7, 1986. Data non-reproducible due to copyright.

[4] Data from Lundberg Statistics Report, March 1987.

Chapter 9

COMPARISONS OF RETAIL GASOLINE PRICES

This chapter examines the relationship of Winnipeg retail prices (ex-tax) to those of other main Canadian cities and to some cities in the mid-west United States. The objective is to examine price differentials between Winnipeg and other cities over time, with an eye to changes in the relative position of the city within the spectrum of ex-tax retail gasoline prices in Canada and the mid-west U.S.A.

The data used in these comparisons are from Statistics Canada (for Canadian prices) and from the Bureau of Labor Statistics (for U.S.A data). Data are monthly for average self-serve prices of regular leaded gasoline[5] (net of taxes) from 1980 to 1987, and weekly from 1985.

To anticipate the main conclusion of this chapter, while in the past Winnipeg enjoyed a fairly favourable position relative to retail prices in other cities, that position deteriorated substantially since the latest drop in crude oil prices. Almost every other city in Canada enjoyed relatively lower gasoline prices than Winnipeg since March 1986, and only very recently has the city's relative position been restored as other city prices have risen while Winnipeg prices remained static. This conclusion does not mean that all was well with the Winnipeg market before that or that all is well now; all it establishes is a deterioration in relative position during the period. See Chapter 11.

9.1 WINNIPEG RETAIL COMPARED TO OTHER CANADIAN CITIES

The comparison of Winnipeg prices with those of Atlantic Canada is shown in Figure 12. The thinnest line in figure 12 shows Winnipeg's retail price (ex-tax), while the other line indicates average ex-tax prices in Atlantic Canada (Halifax, Nova Scotia; Saint John, New Brunswick; St. John's, Newfoundland; and Charlottetown, Prince Edward Island). The figure speaks for itself. Winnipeg's prices have been consistently below those in Atlantic Canada and remain so even after the fall in crude oil prices, although its relative position has deteriorated since March, 1986.[6]

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[5] U.S. data are average prices for all offerings (self/full serve, and cash/credit).

Figure 13 shows Winnipeg (thin line) compared to the average of Central Canada cities (Quebec City, Montreal, Ottawa, Toronto, and Thunder Bay). Once again, Winnipeg's retail prices compare quite favourably with the average of cities in Central Canada before 1986, but deteriorate appreciably after the fall in crude oil prices takes place. Winnipeg's relative position improves only in February 1987 after other city prices rise.

The change in Winnipeg's position relative to Central Canadian cities is shown in Figure 44. The figure, which plots Winnipeg minus other city's prices (ex-tax), shows that previous to the second half of 1985, retail prices in Montreal and Ottawa have been generally above Winnipeg's. However, since the second half of 1985 and the first half of 1986, their prices move below those of Winnipeg. In addition, the Toronto price appears to be moving progressively lower in comparison to Winnipeg's since the second half of 1985.

The comparison of Winnipeg prices to those of the Canadian Prairies is shown in Figure 14 and 48. The figures show that Winnipeg's prices compare favourably with those of Edmonton, Calgary, Regina and Saskatoon for most of the period examined, except for the second half of 1985 and the whole of 1986 when Regina had a consistently lower price (a price-war was reported there for that period).

Figures 15 and 45 show Winnipeg in a fairly favourable position compared to the Western Canadian cities of Vancouver and Victoria; but, as the figures show once again, Winnipeg's position relative to these cities deteriorated between March 1986 and March 1987.

Figure 11 summarizes the above data and results and illustrates the fact that Winnipeg's position deteriorated substantially compared to the Canadian average in 1986, and was later restored in 1987.

Finally, Figure 26 summarizes the deterioration of Winnipeg's relative position since 1985 by presenting Winnipeg's weekly retail price against the Canadian weighted (by volume) and unweighted average of weekly retail prices (ex-tax). From the graph one can see that while

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[*] It should be cautioned that averaging four city prices for Atlantic Canada and comparing them to those of one city alone (Winnipeg) can give the impression that prices in Atlantic Canada were never below the Winnipeg price. For example, if one city in Atlantic Canada goes below Winnipeg's price for some time, this may never be seen in figure 12, since it will require that the reduction in that city's price bring the Atlantic Canada average below that of Winnipeg's price, a rather tall order. However, this does not affect the analysis since prices in Atlantic Canada cities are rarely below those in Winnipeg. This is shown in Figure 43 which takes the difference between Winnipeg's prices and those of cities in Atlantic Canada. The figure shows that except for Saint John (line 2), prices in Atlantic Canada have been higher than Winnipeg's since at least January 1980.

the differential between Winnipeg and the rest of Canada was quite small before 1986, it subsequently widened substantially. Only recently did the gap narrow again. Winnipeg retail prices were, on the average, 2.2 c/l higher than the unweighted Canada average for the period March 1986 to April 1987, and 3.52 c/l higher than the weighted average retail price in Canada for the same period.

The almost universally consistent observation that emerges from the examination of the above data is that while Winnipeg's relative position in the spectrum of retail prices of Canadian cities was relatively favourable before the end of 1985, it deteriorated substantially after that period. Winnipeg's historical position has just been restored as prices in other Canadian cities rise while Winnipeg's remains static. Since no satisfactory explanation has been advanced for this experience,[7] the developments in the Winnipeg market during 1986 are deemed abnormal and unacceptable.

The industry will most probably attempt to explain away these developments as 'short-term occurrences' (March 86 to March 87) whose reversal (Feb-March 87) is the very proof of their 'randomness'. But these events can scarcely be considered random when it is recalled that the rest of Canada seems to have behaved in more or less a uniform manner while Winnipeg (and perhaps Edmonton and Calgary, for some time) stood by itself. Moreover, the 1987 restoration does not indicate that all is well now, since retail prices can be lower if competition is enhanced. See below (Part VI).

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[7] See Appendix B, answers to questions 11 and 27. First, there is inconsistency in the replies of one company, which claims both that the Winnipeg price reflected fully the fall in crude costs (question 11), and then explains its static behaviour with reference to a phase-cycle (question 27). Second, on the specific question of whether there were any changes in market conditions resulting in less competition (question no. 27), the rest of the answers were as follows: one company states no changes; another suggests more intense competition(!); and yet another states that Manitoba's Bill 5 is a major deterrent to price competition. The first two answers to question no. 27 do little to explain Winnipeg's deterioration. The third answer has no validity in a market exhibiting effective competition, where participants compete without even realizing that they do; this answer, rather, implies an oligopolistic structure with few participants aware of general market and other conditions. In such a structure, counter-balancing regulatory legislation will probably do more rather than less to promote better conditions in the longer run.

9.2 WINNIPEG VERSUS MID-WEST U.S.A PRICES

Comparisons between retail prices in Winnipeg and those in United States cities must be made with a number of points in mind. First, the price differentials between the prices of different grades of gasoline sold through various service arrangements (from self-serve cash to full-serve credit) are not the same in the United States as they are in Winnipeg. For example, the differential between regular leaded self-serve cash and gasoline sold under full-service credit arrangements can be quite substantial in the United States, as Table F2 shows. It may therefore be the case that a low price for regular leaded self-serve cash in the U.S. may not be apparent when a weighted average of retail prices over all types of sales are compared to a Canadian price. Second, one must remember that the Canadian crude oil market was regulated up to June 1985 and therefore wholesale and retail prices in Canada before that time are not strictly comparable to the situation in the States.

The American data for retail prices used in this study are averages of the various service offerings (cash, credit and full-serve/self-serve gasoline), while the Canadian prices are for self-serve gasoline. One can then be certain that the actual differential would, in fact, be slightly higher than indicated in the graphs that follow.

To take care of the second problem, comparisons are made only for the period from June 1985 to date.

Figure 46 illustrates the Winnipeg self-serve ex-tax retail price (thin line) to an ex-tax average price for Chicago and Minneapolis (thickest line). For the short period available, the Winnipeg price was, on average, higher than the Chicago price by 3.23 cents per litre in 1985, but 7 cents per litre higher in 1986 and the first quarter of 1987. The Winnipeg price was also higher than that of Minneapolis, Minnesota by 2.13 cents per litre in 1985 and 7.6 cents per litre in 1986.

A comparison of the Winnipeg price with prices closer to the United States/Canada border is more difficult due to the lack of specific time series data. However, Manitoba government price surveys indicate price differentials of 4 to 8 cents per litre (ex-tax) for border cities in Manitoba and North Dakota during the first week of April 1987.

Chapter 10

THE COST-JUSTIFIED PRICE OF GASOLINE: TRACKING THE EFFECT OF LOWER CRUDE PRICES

This chapter examines the effect of lower crude costs on the cost of gasoline (section 2), and estimates the expected impact of the lower gasoline costs on the retail price of gasoline if these lower costs are assumed to be fully reflected at the retail level (section 5). The so calculated retail price is called 'cost-justified' or 'proper' price. It is obviously important to determine the cost-justified or proper retail price of gasoline if the actual behaviour of pump prices is to be examined from both the supply and the demand side of the equation.

10.1 METHOD

Using changes in raw material (crude) costs to determine changes in product prices has raised objections from the oil industry. They correctly argue that the cost of crude is only one of several costs which affect the final retail price, and apportioning these costs among the various joint products which result from refining oil is difficult if not impossible. Also, not only cost but market conditions help determine retail prices. These objections and concerns have been discussed in Chapter 1 of the report.

The industry's objections have merit, but crude costs remain a major component of pump prices.

First, while all costs may not be recovered in the short run, the industry does appear to agree that longer run product prices must reflect crude costs - the major cost component - in order for the industry to remain viable. In line with this, the Commission would be willing to accept short-term divergences between the cost-justified and the actual price of gasoline if explanations of these divergences, in terms of changes in market conditions, were forthcoming.[*]

Regarding the industry's contention that crude costs and product prices are independent of one another, at least in the short-run, it is interesting to note that in competitive markets such as Chicago and Minneapolis, the retail and wholesale product prices move in remarkable unison with spot crude prices. Figures 17, 18, 19, 20, 27 and 28 illustrate this observation.

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[*] On all this, see Chapter 1, section 1.4.1 (nos. 3,8).

Second, joint costs may complicate, but they cannot prevent analysis of the type done here. In fact, the analysis herein treats the question of joint production and associated cost allocation in such a way that the results are biased in favour of the companies' position on the matter of retail prices.[9]

Third, and obviously, crude costs are not the sole determinant of product prices but this does not take away from the ability of the simple crude tracking model used in this chapter to reflect changes in crude costs onto the price of gasoline. Since evidence supports the conclusion that the second half of 1985 was a period of "normal" market conditions, (see below, Section 10.3), it is possible to use this year as a base or starting point and then apportion changes in crude costs on to gasoline prices using methodology previously agreed upon by both the federal government and the oil industry.

The ability of the crude tracking model to reflect crude cost changes (especially in competitive markets) onto the price of gasoline is further strengthened by the close fit of Toronto's retail prices to the predicted "cost-justified" price of the model, as will be seen in what follows.

10.2 COST ALLOCATION

Lower crude prices would normally be expected to affect the total production cost of refineries in three ways: first, raw material (crude oil) costs would be lower; second, some variable costs of operation (the cost of crude used up in the refinery process) would be less; and third, the capital cost of holding crude oil and product inventories would be less. We shall track all three effects of lower crude prices on costs.

The process of refining a barrel of crude results in joint production of a number of products, with which is associated a total production cost. However, it is not possible to identify in an objective way what portion of costs was expended for each joint product. Therefore, the costing of products must be done through some method of apportioning the total cost to each finished product. In what follows, all calculations of crude costs effects on gasoline costs favour the industry's position, since cost allocation to gasoline herein is only proportional to its quantity in the product slate. See Appendix C.

Since a barrel equals 159 litres, a $1 reduction in the price of crude oil implies a .66 cent reduction in the raw material cost of a litre of gasoline (taking an approximate 5% processing loss into account). A reduction in circulating capital requirements because of lower inventory costs brings the saving from the lower price of crude to .69 cents per litre. These amounts were agreed upon by the industry and the Federal Government when prices were rising in the mid-seventies.

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[9] See Chapter 1, section 1.3.1 (no. 2) and section 1.4.1, no. 9, as well as Appendix C.

Beyond the elements of cost discussed above, when crude oil prices were rising in the mid-70's, the oil industry was arguing that their strongest market from the point of view of demand was that of gasoline, and that markets for the rest of the product slate were relatively soft. As a consequence, it was argued that not all higher material costs could be apportioned to the product slate in proportions reflecting quantities, and therefore gasoline should be charged a more than proportionate share of the increasing costs arising from the higher price of crude oil.

Applying the above principle to the situation where crude costs are falling would mean that the lower cost of crude must be passed on to gasoline costs in proportions higher than those indicated by quantities in the slate; gasoline costs should then be calculated to fall more than proportionately in comparison to other products (.73 c/l instead of .69 c/l, according to numbers agreed upon in the seventies). We shall, nevertheless, assume that lower crude costs are passed proportionately to every product; this way, we can in fact treat a barrel of oil as if only gasoline is produced from it.[10]

10.3 DETERMINING A BASE PRICE FOR CRUDE AND GASOLINE

In order to develop a model to track changes in the price of crude and how they are reflected onto the cost of gasoline, one requires both a beginning base cost of crude and a beginning retail base price of gasoline. Averaging the cost of crude for the second half of 1985 can give a bench mark value of crude which can be implicitly related to a bench mark raw material cost of gasoline. In turn, that bench mark cost of gasoline can be implicitly related to its retail price.

If the period in which the bench marks are taken is not abnormal in terms of short-run market conditions, it can then be ascertained that the associated bench mark retail price of gasoline reflects fully the costs of its production plus a satisfactory profit margin. The calculation which follows used both the average cost of crude and the average gasoline price for the second part of 1985 as bench mark.

One may wish to argue that the second half of 1985 was not a normal period. There are at least two ways in which the industry has argued that position: one maintains that 1985 was not a normal period from the view of retail market conditions, specifically, that it was a situation of price-war. Consequently, it is claimed that Winnipeg's retail prices should not be expected to fall as much as other cities who were not in a price-war situation. The other is to argue that the refining sector of the oil industry was depressed in the first half of the 80's due to excess capacity in the refining sector. Thus, some crude cost savings were required to restore profit levels. We shall deal with these two arguments in turn.

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[10] An assumption that is obviously favourable to the industry's position. See, again, Appendix C.

On the first point, from the data comparing retail prices in Winnipeg and other cities, (Figures 11-15, referred to in Chapter 9) it appears that Winnipeg's relative position with respect to other cities was fairly constant in the 1980-1985 period. When Winnipeg had a price-war during this period, its price fell substantially below that of other cities.

But this did not happen in the second half of 1985, as the figures show. The Commission therefore considers the retail market as normal in the second half of 1985, in that the situation in Winnipeg was not that of a price-war.

Regarding depressed refinery profits, if the second half of 1985 was indeed an abnormal year from the point of view of wholesale short-term market conditions (as opposed to long-run excess refinery capacity), one would expect that abnormality to reveal itself in the revenue performance of refiners in that year. However, Figure 37 (referred to in Chapter 4), which shows apparent margins for Prairie refiners since 1982, indicates their margins were virtually constant from 1982 to the end of 1985.[11] It would therefore be difficult to sustain the position that 1985 was any different in comparison to the three years before it. Neither would it be acceptable to maintain that short term adverse market conditions were persisting for three and a half years.

The working hypothesis of the Commission is that the data presented in Figure 37 do not provide evidence that the second half of 1985 was abnormal in terms of short-term wholesale market conditions.

There remains the alternative long-term explanation that the refining sector has been, since the beginning of the 80's, in a situation of overcapacity and a lower than normal degree of plant utilization.

As explained in chapter 1,[12] if the above is true, any remaining overcapacity and low rates of utilization will have to be corrected by the industry in some fundamental way such as reducing capacity or finding new outlets for the excess output. Excess refining capacity and the associated lower degree of utilization impacts on operating costs and that is where the correction should take place. If fundamental corrections occur, the refining costs per unit of output will drop and the current apparent margin will be sufficient to cover costs and provide the profit necessary for the industry's ongoing existence and growth.

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[11] But for a brief reduction in 1983, when Gulf attempted to gain market share.

[12] Section 1.4.3, no. 10.

If it just happens that either product prices rise or raw material costs fall, a higher apparent margin will temporarily correct the situation but the long-term maladjustment due to excess capacity will not go away. Thus, taking advantage of lower crude prices to raise margins, instead of taking measures to increase utilization rates and reduce costs, is in effect an escape from the discipline of competitive markets. What would the industry do if crude prices had stayed high?

In summary, the above discussion establishes that first, retail markets were not depressed in the second half of 1985. Second, since the apparent margin of refiners has not changed between January 1982 and 1985,[13] short-term demand conditions in the wholesale market cannot have been adverse either. On the other hand, the adverse operating cost conditions due to excess refinery capacity in relation to long-term demand can only be corrected through long-run fundamental measures. These adverse cost conditions do not support the possible contention that the years 1982 to 1985 are in any way abnormal, from the point of view of short-term demand. It therefore is legitimate to use the second half of 1985 as base for the determination of the bench mark crude cost to refiners and the associated retail price of gasoline for the model.

10.4 ESTIMATING THE FIFO LAG

Section 6.3 in Part IV established that inventory valuation methods have little to do with pricing in markets exhibiting effective competition, though they do affect profit performance differently, especially when product prices move sooner than the inventory depletion period.

However, when crude prices were on the rise, the industry was forced to price its products according to inventory depletion periods, so that price rises were delayed by these periods. It is therefore only fair to allow, in the analysis that follows, the same sluggishness on product prices which was enforced on the industry when prices were rising.

This sluggishness of product prices will depend upon the depletion period of (crude and product) inventories held by the industry for the regional demand under consideration. Obviously, the associated lag of response is important only when crude costs are changing.

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[13] Except, as already mentioned, in the 1983 price-war.

In its Interim Report, the Commission used a 56-day lag; this was criticized by at least one major oil company who stated that their inventory holdings justified a 75-day lag instead. In response to the Commission's questionnaire,[14] the oil companies stated approximate lags ranging from 33 days to 45-60, to 60 days, to 65-75 days, to 95 days.

Given the range of these estimates, the relative difficulty of determining the actual average lag for the Province, and the relative unimportance of its exact value under most circumstances,[15] it was decided to take a straight average of the lags given in the company responses,[16] which yielded a lag of approximately 62 days, 6 days higher than that used in the interim report.

In one more attempt to weigh the results of the analysis in favour of the industry, the model below was run with lags of 56 and 70 days, with the results of the 70-day lag given primary importance.

10.5 THE COST-JUSTIFIED PRICE OF GASOLINE

The model uses average price bench marks of $37.34 for crude[17] in the second part of 1985 and 54.4 cents/litre for the retail gasoline price during the same period.

Assuming a lag of 56 days for Winnipeg (8 weeks), the expected reduction in cost of gasoline due to reductions in raw material (crude) costs is shown in Figure 21. The figure shows, after the first quarter of 1986, a discrepancy between the actual retail price prevailing in the market and the price that could be justified on the basis of the lower cost of crude oil. This discrepancy averaged 2.02 c/l for the period.

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[14] See Appendix B, question no. 18.

[15] As will be seen below, varying the lag from 56 to 70 days does little to the results of the tracking model.

[16] The middle of the range was used for those responses giving ranges of values.

[17] The analysis in the interim report used a bench mark crude price which averaged Edmonton postings with two spot crude prices (WTI and Brent). As has been established in Chapter 3, it makes little difference whichever of the three crudes is used; however, since the industry prefers using Edmonton postings, we shall use them here. Note that in 1985 Edmonton postings started falling two weeks later than spot crudes, on December 6 compared to November 22.

Figure 22 extends the lag to 70 days. While the Figure shows the actual price to be below the cost justified price for some time (February to March, 1986), the cost justified price remains below the actual retail price in Winnipeg for quite some time after that; on average, the discrepancy is 1.78 c/l, 0.24 c/l less than the result using 56-day delay. This points to the relative unimportance of the lag after the crude oil price stopped falling.

While the situation in Winnipeg in 1986 was that the cost-justified normal price lay substantially below the actual retail price, the Toronto market exhibited a remarkable "fit" between the cost justified and the actual price. Figure 23 illustrates, the point using a lag of 56 days.[18] As is obvious from the figure, the actual retail market price keeps hovering around the cost justified price for the whole period. In fact, the actual retail price is, on average, lower than the cost-justified price by .06 c/l.

The remarkable fit of the Toronto retail price to crude cost factors, and the pronounced lack of fit for Winnipeg, will most probably be explained by the industry as due to differences of 'local market conditions' in the two markets. One could speculate that, in Toronto, the market is large and has many independents who can import gasoline from the United State when the domestic wholesale prices are higher. Not only does this larger market allow higher sales volumes but also retail prices can be reduced and sales increased without immediate response from the rest of the market. In contrast, Winnipeg has slightly lower potential volumes (see below), and a smaller market in which retail price reductions are highly visible and more inclined to induce price-wars. The overall impact results in the Toronto market being more responsive to crude cost changes.

The above explanation of Wpg-Toronto differences is not in any way crucial to the rest of the research, or the recommendations of the Commission. The purpose of the latter is not to render the Winnipeg market the same as that of Toronto, but to create simulated conditions of competition in the Winnipeg market, given its size, structure, and other characteristics.

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[18] Actual inventory lags using FIFO were probably longer than 56 days in the case of Toronto, but that market was subject to competitive pressure from imports, as mentioned elsewhere in this report.

Chapter 11

RETAIL MARKETING ISSUES

11.1 RESELLERS' POSSIBLE APPARENT MARGINS IN 1986-87

In this section we examine the revenue possibilities that independent resellers could have experienced in Winnipeg in 1986 and 1987, and compare them to the corresponding opportunities of a reseller operating in Toronto. The purpose being to discover whether the recent relationship between wholesale and retail price structures in the two cities differs in any substantial way, or whether it is basically similar.

Determining a resellers' apparent margin is similar to finding the apparent margin of a refiner. We will define it as the difference between the retail pump price (ex-tax) and the reseller's wholesale acquisition cost. Resellers will be considered to have three basic options in buying gasoline for resale: the posted rack price in the city; the refiner's realized sales price to resellers in the region (obtained by the resellers through negotiation); and the rack price of neighbouring United States communities from which import is physically possible. In our example, the neighbouring communities will be Grand Forks, North Dakota (for Winnipeg) and Buffalo, New York (for Toronto).

It will be recalled that the section on wholesale gasoline markets compared wholesale prices in the Prairies with those in Ontario. Those wholesale prices were a weighted average of prices charged by refiners to all categories of buyers (retail, commercial and industrial, consumer and resellers) and they differ from the prices charged specifically to resellers; the price of gasoline to resellers is usually one of the lowest among all categories of sales. Figure 4 illustrates the difference between the average price to all buyers and the price to resellers.

11.1.1 Resellers' Possible Margins, Winnipeg

Figure 24 illustrates the margin possibilities for a reseller operating out of Winnipeg. The thinnest solid line represents the Winnipeg retail price for gasoline, ex-tax. The next line (a little thicker) represents the rack prices posted in Winnipeg. The third solid line (yet thicker) represents the refiners' realized sale price to the resellers in the Prairies. The thickest solid line represents the Grand Forks rack price.

The resellers' three possible apparent margins are indicated by the broken lines in Figure 24. The thinnest broken line is the apparent margin of the reseller if he/she buys gasoline off the rack at the quoted rack price. Since the rack is the highest wholesale price of the three presented in the picture, the margin from that option is the lowest. The second thickest broken line is the apparent margin of the reseller if he/she buys at average prices realized by refiners in the Prairies. Since, as already mentioned in the section on wholesale markets, realized prices of refiners to resellers in Winnipeg normally lie below racks, the possible margin of the reseller from this option is higher than what he/she could make by buying off the rack. Finally, the thickest broken line is the margin that could be made by the reseller were he/she to buy gasoline off the Grand Forks rack.[19]

As is obvious from the figure, it was frequently more profitable to purchase gasoline from Grand Forks rather than from Winnipeg at posted rack prices or by negotiating with the refiners. The average Grand Forks rack in the period from November 1985 to March 1987 was 20.38 cents per litre, while the refiner's average negotiated price of gasoline to resellers was 21.38 cents per litre. On the other hand, the average rack in Winnipeg was 23.83 cents per litre in that same period.

Consequently, if a Winnipeg reseller was to buy consistently from the rack during that period he would have made 7.3 cents a litre; if he/she was to buy at average realized prices of refiners to resellers he/she would have made 9.73 cents a litre; and finally, if he/she was to import gasoline from Grand Forks he/she would have made 10.94 cents a litre. Even on the average, then, it would have paid a Winnipeg reseller to utilize the import route.

However, if any imports did occur at all from Grand Forks into Winnipeg and Manitoba during this period, they had no effect on the retail price in the city, though competitive imports may have had an effect on prices to other users of gasoline, on which specific transaction data were unavailable.

While margins may not be as great as they were during the period of falling crude oil prices, importing gasoline from Grand Forks still provides opportunities for healthy profits. If these imports were sold at competitive prices, it would be possible, as of March 27, 1987, to reduce Winnipeg's pump prices for regular leaded gasoline by approximately 2 c/l (assuming a 5 c/l reseller margin and a generously estimated 2 cents per litre for transportation costs). This price improvement would occur even though Winnipeg's relative gasoline price position has recently been restored to past levels, which leads to the conclusion that all is not well with the 1980-1985 'traditional' low prices of Winnipeg vis-a-vis other Canadian city prices:[30] prices could be still lower here, if the import route could be made an effective threat to market participants. Moreover, prices for unleaded gasoline could be lower still, given that the two grades are priced inversely (unleaded is slightly cheaper than leaded gasoline) in the U.S. wholesale market.

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[19] Buying gasoline off the Grand Forks rack implies the additional cost of transportation of gasoline to Winnipeg. Quoted racks in Grand Forks however, are before prompt payment discounts, the latter ranging close to the estimated cost of transportation to Winnipeg most of the time. We may therefore safely ignore this complication here. Moreover, when margins for Winnipeg are compared to margins for Toronto comparisons do not suffer if transport costs (which are assumed roughly similar) are ignored.

11.1.2 Resellers' Possible Margins, Toronto

Let us now examine the comparable situation for a reseller in Toronto: Figure 25 illustrates. The thinnest line is the Toronto retail price for regular leaded gasoline ex-tax, and the next three solid lines (in increasing thickness) represent the posted Toronto rack, the refiners' average negotiated sale price to resellers in Ontario and the Buffalo rack price, the latter being the relevant price for possible importation to Toronto.

The dotted lines showing the margins available to resellers are easily seen to be much lower than the comparable Winnipeg margins. In fact, the average margin of a Toronto reseller buying strictly from the rack is 5.24 cents (while the comparable margin of a Winnipeg reseller was 7.3 cents). This is despite the fact that Winnipeg racks are, on average, higher than Toronto racks for the period (23.83 cents as against 21.23 cents per litre). This is because the retail price in Toronto is lower over the period compared to that of Winnipeg (average Toronto retail ex-tax for the period was 26.38 cents per litre and the comparable Winnipeg price was 30.97 cents per litre, a difference of 4.59 cents per litre).

The second option of a reseller is to attempt to negotiate a "deal" with the refiner. A Toronto reseller could then buy gasoline at the average price realized by Ontario refiners, but he/she would then only make 4.38 cents per litre as opposed to 9.73 cents per litre for the Winnipeg reseller. The difference is due not only to a lower retail price in Toronto but also to a higher realized price to resellers by Ontario refiners (22.07 cents per litre as opposed to 21.38 cents per litre for Prairie refiners). Realized prices to resellers in Ontario are higher than the Toronto racks presumably because racks are active; i.e., the larger resellers buy at prices closer to them in comparison to Winnipeg. This leaves the prices to smaller resellers (which are above rack) to raise the average price obtained by resellers to values above the rack. See also Chapter 4 above.

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[30] See Chapter 9.

Finally, buying off the Buffalo rack would net the Toronto reseller 6 cents a litre while the Winnipeg reseller could make an average 10.94 cents per litre importing gasoline from Grand Forks. Most of this difference is due to retail price differences, since, as Figure 29 shows, Grand Forks and Buffalo racks were similar during the period.

The data, then, indicates quite clearly that the opportunities of a Winnipeg reseller were better in monetary terms per litre than those available to a Toronto reseller. Figure 49 illustrates the margin of a Winnipeg reseller when he/she imports gasoline from Grand Forks as opposed to the margin of a Toronto reseller importing from Buffalo. Once again, the Winnipeg reseller has very good opportunities as compared to a reseller importing from Toronto.

11.2 NORMAL APPARENT MARGINS FOR RESELLERS

The differences between possible apparent margins of Toronto and Winnipeg resellers (shown in Sections 11.1.1 and 11.1.2) raise questions as to whether, in fact, Winnipeg resellers need that much higher margins to operate profitably. It will be recalled that calculated Winnipeg margins for 1986-1987 were, in some cases, more than double those of Toronto resellers (7.30 versus 5.25 c/l off rack, 9.73 versus 4.38 c/l by negotiation, and 10.94 versus 6 c/l by F.O.B. importation).

One reason why Winnipeg resellers may need a higher margin to operate is lower total gasoline sales per station. But sales volume differences alone cannot justify the above differences in margins: according to data from the industry's submissions to the R.T.P.C.,[21] average annual sales per outlet for the whole industry in 1980 were 573,000 gallons (2,601,420 litres) for Toronto and 518,000 gallons (2,351,720 litres) for Winnipeg. For the subset of outlets belonging to private brand stations, the respective annual sales for 1980 were 625,000 gallons (2,837,500 litres) for Toronto and 440,000 gallons (1,997,600 litres) for Winnipeg. Thus, Toronto's sales volumes were higher than Winnipegs by 10.6% for the whole industry and by 42% for the private brand stations. To make the same total revenue, then, Winnipeg margins ought to be higher than Toronto's by one of these percentages.

In order to see which comparison is more appropriate, it is useful to calculate the variation in sales volume between private brand stations and the industry as a whole, for the city of Winnipeg. Three points of time will be used: 1974, 1980 and 1985. The available data are shown in Table D2.

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[21] Third submission to the R.T.P.C., On the State of Competition in the Canadian Petroleum Industry: Petroleum Products - Refining/Supply and Marketing 1958-1982, Imperial Oil Limited, 1983, Figure XV-6, p. XV-27.

From this data one sees that, in both Toronto and Winnipeg, sales volumes of private brands are roughly equal to those of the industry, if not larger, except for Winnipeg in 1980. This leads us to believe that the comparisons of volumes for the industry as a whole, rather than for private brands, is probably the correct one. However, both comparisons will be used, in order to indicate how much higher the Winnipeg margins actually were during the period under consideration.

If volumes of sales differ by 10% or 40%, it follows that the margin for Winnipeg resellers could be 10% or 40% higher than Toronto's, to compensate for relatively lower volumes.

But as mentioned above, margins in Winnipeg were a lot higher in 1986 and 1987.[22] Table F1 shows comparisons of margins, with adjustments for volume differences.

This comparison shows that, in all cases except one, Winnipeg reseller margins adjusted for volume are still higher than Toronto margins even when the 40% adjustment is used. Since Toronto resellers have been and still are in business with smaller margins, the legitimacy of the margins enjoyed by Winnipeg resellers is put to question.

Another set of data which may be used as bench marks for comparison are average U.S.A. independent dealer margins.[23] These were calculated at values corresponding to 4.90 c/l in November 1986, close to their historical average. See Table F2 for the original data and the relevant calculations.

Yet other data on wholesale rack prices and retail prices ex-tax for Chicago and Minneapolis in 1983-86 yield independent reseller margins of 4.98 c/l for Chicago and 3.66 c/l for Minneapolis (see Figures 19 and 20).

Another phenomenon leading to the questioning of Winnipeg margins are the current discount and couponing practices of at least two resellers[24] which reveal that these retailers are satisfied to sell at effective prices closer to 42 c/l for regular leaded self-serve cash.

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[22] Even on a longer term basis (using monthly retail prices and realized prices to resellers) the differences remain, though smaller: 5.57 c/l for Winnipeg and 4.45 for Toronto on average in 1980-86.

[23] Original data reported in the Lundberg Letter, December 1986.

[24] Canadian Tire and Supersave. The discussion of this point ignores the cash bonus coupons redeemable for store merchandise, that Canadian Tire offers in single, double or sometimes triple bonus (single value coupons are worth approximately 1 c/l in merchandise), on the assumption that the costs of these coupons are part of the store merchandising budget.

On the basis of an apparent margin from negotiation, equal to 9.73 c/l, and a current common retail price of 46.7 c/l, this yields an apparent margin of approximately 5.00 c/l (9.73 + (42.00 - 46.7)) for these discount resellers.

Another indicator of proper gasoline station margins may be obtained from the companies' submissions to the Restrictive Trade Practices Commission. Texaco's submission, for example,[25] contains, in Table V-1 (page 207), estimates of expenses of typical service stations from 1980 data.

According to these estimates, a self-serve station with token promotion, no service, and annual sales volume of 800,000 gallons (about 3.5 million litres) would have typical costs of 9.9 c/gallon (or about 2.1 c/l). Since these data are 1980 dollars, they need adjustment to 1987 dollars, which brings the typical costs to 3 c/l.[26]

Since the average sales volume per station in Winnipeg in 1985 was closer to 447,000 gallons (about 2 million litres), an adjusted cost figure may be obtained from the Texaco data, which amounts to approximately 2.88 c/l for that volume. Adjusted for inflation, this yields 4.11 c/l for 1987.[27]

In summary, five different sets of data comparisons point strongly to the conclusion that Winnipeg independent reseller stations can operate with profit at an apparent margin of 5-5.5 c/l.

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[25] Submission to the R.T.P.C. on the State of Competition in the Canadian Petroleum Industry, Texaco Canada, Inc., June 1983.

[26] The implicit price index for Gross Domestic Product in Canada stood at 90.2 in 1980 and at 128.9 in the first quarter of 1987, yielding an inflation of approximately 43% for the period.

[27] Yet another (though rather not so reliable, because dependent on a graph only), source of typical costs of a self-serve station (including approximate credit card expenses this time) may be obtained from Esso's submission to the R.T.P.C., (see footnote above for this source, page XI-5, Figure XI-1). At 800,000 gallons sales volume the Esso data give (approximately) 12 c/gallon (2.64 c/l), and at 450,000 gallons the costs are approximately 8 c/gallon (3.97 c/l). Adjusted to 1987 dollars, these come up to 3.96 x 1.55 = 6.1 c/l, including credit costs.

11.3 MARKET CONDITIONS AFFECTING MARGIN OPPORTUNITIES

The widely differing margins for Winnipeg and Toronto resellers as calculated in section 11.1 raise questions as to what factors are responsible for such differences, beyond differences in throughputs of stations. One set of factors must be of the nature of 'different market conditions', as the industry would probably claim. We now turn to a brief examination of these conditions.

As already mentioned in Chapter 1, the recommendations of this Commission do not depend on the speculation on the factors that set Toronto apart from Winnipeg, since the recommended measures are not intended to simulate Toronto's market in any specific way. But the question of what exactly sets the Toronto market apart is interesting in itself.

11.3.1 Market Size

From the behaviour of Toronto's wholesale and retail prices, through various remarks in the Trade Press, and from comments made by oil company representatives to groups such as the Standing Senate Committee on Energy and Natural Resources, the possible explanation emerges that imports, either actual or the threat thereof, combined with actual or threatened price initiatives by independent resellers have resulted in Toronto's retail prices being very competitive.

Toronto resellers have two main advantages over Winnipeg resellers: slightly larger possible volumes of sales per outlet, and the size of the market itself. The larger sales volume per outlet, particularly if it is combined with a short-term lease, may make it worthwhile to risk the total cost of the lease which in any case can be recovered in a few loads of gasoline sold at competitive prices. Moreover, and perhaps more importantly than sales volume, the Toronto gasoline market has enough depth in terms of size that if a few independent resellers attempt to sell gasoline at prices slightly below the going price this does not necessarily and immediately start price-wars. As a consequence, the average Toronto reseller acting as an importer can achieve successful arbitrage by selling at prices slightly below the going price and making a healthy margin, given his acquisition cost.

In contrast, a Winnipeg small independent might experience difficulty in at least two fronts: first, the sales volumes in Winnipeg stations are generally slightly lower; and second, the market is not as large. In general, the small independent who contemplates disturbing the market by bringing in a few loads of low cost fuel and selling it at a competitive price faces the real possibility of an immediate price-war. This might leave him exposed to fixed costs of operation that may not be covered since price-war prices can go below his/her own cost of acquisition. On the other hand, the large independent reseller who has a fairly acceptable market share may not think it worthwhile to disturb the existing equilibrium of prices and shares in the market. Therefore, while he/she may take advantage of opportunities of importation, he/she may not choose to disturb retail prices.

The working hypothesis of the Commission, then, is that first, the small independent operator in Winnipeg faces substantial difficulties and risks with an arbitrage operation; and the large independent established reseller may not care to disturb the retail end of the market, although he/she may take direct or indirect advantage[28] of importation opportunities.

In summary the smaller size and associated smaller depth of the Winnipeg market seems to have prevented possible arbitrage operations by small independents despite the fact that they would have enjoyed a large margin upon importation. In contrast, the Toronto market appears to have been affected quite appreciably by such operations.

The next section seeks to identify conditions under which small independents are forced to operate in smaller markets such as that of Manitoba.

11.3.2 Entry Barriers

From appearances, the marketing and retail sectors look like an industry approaching the competitive mold (many operators and firms, free entry and exit, etc.). However, close examination suggests this is not so.

Market entry and exit is relatively easy for branded dealers of integrated refiner-marketeers. These dealers, which account for the majority of retail outlets (see Table C1), can enter into agreements with the integrated companies for the use of assets and equipment, or to operate company-owned stations. But price competition from this group would not be substantial (unless initiated by the oil companies) due to their relatively small margins of about 3.5 cents per litre. Thus, an implicit price floor of 3.5 cents below retail exists for these dealers, since they would not price below their wholesale acquisition cost without help from their suppliers.

Entry may also be easy for large independent chains with sufficient financial backing of their own. However, unless they are new entrants to a specific market, they often choose to act as price-followers and forsake price competition for non-price competition (coupons, glasses, soft-drinks, etc.).

There remains the small independent reseller who would be most likely to engage in price competition. Yet entry is not easy for this segment due to the high capital start-up costs and the substantial degree of expertise required to effectively operate a service station. Moreover, the risk of not being able to recover fixed costs upon exit is a major factor to a small operator, and is magnified by operating in a small market where it is easier to make a mistake in choice of location.

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[28] Either through direct importation or through bargained reduction in the wholesale prices he/she has to pay.

Another difficulty facing the small independent is trying to obtain the same wholesale price offered by the majors to large resellers who purchase larger volumes over long periods. The higher price paid by small operators reduces their margins and thus the ability to price competitively.

Even if the entry barriers, risks and other difficulties are overcome by the small independent reseller, price aggressiveness may be avoided for at least two reasons: the fear of price-wars which could see retail prices fall below levels required to cover fixed costs; and the fact that resellers must purchase wholesale gasoline supplies from the same companies they compete with on the retail level.

Finally, entry barriers are more effective in smaller markets than in larger ones. For example, the start-up cost barrier may be more effective in a small geographic area with a few thousand population, since there will simply be fewer potential investors in that area.[29]

In summary, entry and exit in the retail sector of the oil industry is relatively easy only for the branded outlets of integrated companies and the large independent chains. These retailers, which make up the vast majority of all outlets, can be expected to initiate little price competition. The small independent resellers would be most likely to engage in price competition but face substantial start-up and operational constraints. As a consequence, local market conditions in smaller markets such as Manitoba allow higher apparent margins for large established independents, and even for the small number of small independents in such markets.

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[29] The proportions may be preserved across different sizes of markets, in the sense that the number of investors per thousand population may be constant. But the absolute number of market participants will vary, and this will most probably make a difference to the competitive structure of the market.

Chapter 12

SUMMARY AND CONCLUSIONS

The results of comparisons in this part indicate (chapter 8) that Canadian taxes are not responsible for major price differentials between Canadian cities: Federal taxes are uniform across the country, and most Provincial taxes differ little from each other. Taxes do explain a good portion (currently about 7.7 c/l on average) of the differential between Canadian and U.S.A. prices, however.

The price comparisons over time (chapter 9) indicate a clear deterioration of Winnipeg's relative position in terms of prices ex-tax during 1986, with restoration in 1987. This deterioration is deemed both abnormal and unacceptable, since no obvious market changes have occurred in that period. Moreover, the 1987 restoration does not indicate that all is well now, since retail prices could be lower if competition is enhanced.

The inventory lag for Manitoba still appears close to that used in the interim report of the Commission; it is estimated as 62 days. Its importance, however, has diminished in a situation where oil prices do not exhibit strong movements.

A tracking model (chapter 10) calculates the cost-justified price for gasoline (based on bench mark values for 1985) and indicates that the actual retail price lay above the cost-justified level by 1.79 c/l on average for the whole period (assuming a 70-day lag) and by 2.02 c/l, when the lag was set to 56 days.

Finally, margins of Winnipeg resellers appear high in comparison to other cities and to reported costs, the differential not being fully attributable to different sales volumes. Wholesale prices to large independent resellers appear competitive, this leading to the conclusion that retail market conditions keep retail prices high. Such conditions include the risk associated with capital investment in retail marketing, as viewed by small investors in a thin market; barriers to entry such as knowledge, ability to secure low prices from refiners; and the smallness of the market itself.

PART VI

RECOMMENDATIONS

Chapter 13

BACKGROUND TO THE RECOMMENDATIONS

13.1 CRUDE OIL MARKETS NOT AFFECTED BY LOCAL PRODUCERS

The crude oil market in both Canada and the U.S. is subject to strong international forces.[1] **Figure 3** shows that Canadian posted prices follow fairly faithfully the movements of spot crude oil markets, particularly since January 1986. Therefore, **there is little the Province can do about the price of crude oil; but a more limited objective, namely ensuring that wholesale and retail prices reflect crude costs, is both realizable and desirable.**

13.2 WHOLESALE NOT FULLY COMPETITIVE: ALTERNATIVES NEEDED

While Mid-west American wholesale market for refined products are subject to international market forces, the Canadian wholesale market in general is subject to less competition due to natural oligopoly conditions (small market, mostly land-locked, capital-intensive industry), though refiners appear to compete for the business of large independent resellers. See Figure 4. Small independent retailers, however, have to deal with a small number of alternative local suppliers and in order to expand their options these independent buyers would have to be knowledgeable in importation laws, transportation and storage procedures, costs and facilities, able to buy bulk product quantities and able to access substantial credit.

All these requirements are rather difficult to satisfy in the Manitoba market, and as a consequence competition at the wholesale level is limited. It is therefore **advisable to adopt measures that would enhance effective competition [2] at the wholesale level.**

Figures 33, 29, 30, 27 and 28 show that mid-west U.S.A. wholesale markets are good examples of effective competition as indicated by their prompt and complete response to crude oil prices and oil product prices. Therefore, **Grand Forks, N.D, (or Minneapolis, Minn.) being close to Winnipeg, could conceivably be used as a source of imports, by a commercial agency, which would enhance competition at the wholesale level by making competitive wholesale prices [3] available to all buyers.** [4]

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[1] This does not imply that the world crude oil prices are determined in an effectively competitive context; it only means that any non-competitive elements in those prices are not under control of Canadian producers.

[2] The term is defined in Chapter 1 of the report.

13.3 RETAIL WINNIPEG MARKET NEEDS PRICE COMPETITION

By all appearances, this market looks competitive, but closer examination reveals **barriers of entry and exit, at least for those participants likely to engage in independent price competition.**

Entry and exit may be easy for branded dealers, who could lease to use assets and equipment of oil companies; but price competition by these dealers could not be substantial, given their small per litre margin. There is an implicit price floor in this segment of the market by virtue of the fact that branded dealers cannot independently price below their wholesale acquisition price, which is usually about 3.5 c below retail ex-tax. This floor applies to at least 65% of all retail outlets in Winnipeg (outlets of major oil companies).

Entry may also be easy for large independents with sufficient financial backing of their own, sufficient knowledge of supply sources and access to storage facilities; but unless they are new in the market and attempt to carve out a share of it, not much should usually be expected of them except, perhaps, non-price competition (coupons, etc). This is understandable, given that their share is large enough, therefore satisfactory in the first place; moreover, a lower price set by these independents would unsettle other participants, whose losses from that action would be large and difficult to bear, leading them to counter-action, with price-wars as result.

There remain the small independent resellers who would be most likely to compete on price, since their small share of the market is bound to rise substantially with lower price, while participants other than those in the immediate vicinity may not even detect the effect of this lower price on their total sales, particularly if the market is large. But entry is not easy for this category: the capital required to set up a service station is in the area of three hundred thousand dollars[5] and the expertise necessary for service station operation is not insubstantial. For example, knowledge of alternative supply sources is useful but not easily available.

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[3] Competitive prices, of course, cut both ways: it is conceivable that these prices may at times be higher than the more sluggish less competitive wholesale prices of major oil companies in Winnipeg, but this will only be a brief occurrence. On average, competitive wholesale from Grand Forks was lower than both Wpg racks and wholesale prices to large resellers for the period that data was available and comparisons were relevant (1986-87).

[4] Large Wpg independents seem to enjoy prices comparable to the Grand Forks racks, but small independents must buy at or above the Winnipeg rack, due to volume criteria. See Figure 9.

Neither is it easy for a small operator to 'strike deals' with local refiners that would secure him/her wholesale prices comparable to those enjoyed by larger resellers who buy large volumes; his/her margin, and consequently his/her ability to drop prices, is therefore limited.

Moreover, the risk of not being able to recover investment costs upon exit is real for a small operator, and is exacerbated by the small size of the market: it is easy to make a mistake in the choice of location.

Even if entry barriers and other risks are overcome by a small independent, he/she may decide to be a price-follower, since price-aggressiveness can be quite costly: the larger participants can withstand a price-war for much longer than he/she can.

In summary, then, the oil industry's retail sector is one in which numbers are large and entry and exit is easy only for those categories of retailers that must, or do, behave as price followers.[6] This type of market structure is not close to effective competition, despite appearances to the contrary.

A consequence of this relative lack of competition can be observed in the retail margins enjoyed by large independent resellers in Winnipeg since 1985; these margins were substantially higher than comparable margins elsewhere[7] even after adjustments for different volumes of sales per station.[8] Moreover, these margins were well above cost figures for the operation of gasoline stations, as supplied by the companies in submissions to the Restrictive Trade Practices Commission.[9]

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[5] Preliminary internal government data.

[6] Following a price that has as effective floor the wholesale price to branded dealers plus the branded dealer margin of about 3.5 c/l.

[7] 9.73 c/l in Wpg versus 4.38 c/l in Toronto (Figures 24 and 25), 4.90 c/l on average for the U.S.A. in November 1986 (Table F2), 4.98 c/l for Chicago in 1983-86, and 3.66 c/l for Minneapolis in 1983-86 (Figures 19 and 20).

[8] See Table F1.

[9] Costs as submitted by Texaco, adjusted for volume and for inflation since the submission, were 4.11 c/l.

It follows that to promote effective competition at the retail level one needs measures and policies that render entry, exit and price competition as easy and relatively equally risky for at least a few small independents as it is for large independents and for majors (through branded dealers).

Chapter 14

RECOMMENDATIONS: THEIR RATIONALE AND BENEFITS

'Why Regulation Not Advisable Except As Last Resort'

Regulation of gasoline and related product markets **by means of hearings and the usual process of regulatory bodies** is generally **not advisable.** This is because today's crude oil and gasoline markets are subject to continuous change, making regulation impractical and introducing distortions, since it will not be possible to adjust prices quickly enough. These difficulties are compounded by the fact that gasoline is produced jointly with other products subject to varying conditions of demand, and by the general difficulties, inflexibilities and conservative approach characterizing the regulation process. Regulation would be effective in industries where costs are mainly capital overhead, and fairly constant over time, but it would not be desirable to apply it to the oil industry, as even those who have the experience state.[10] Moreover, it may become necessary to regulate not only retail but also wholesale prices,[11] and this might be rather difficult, given the fact that gasoline is produced outside the Province.[12]

The findings of this Commission regarding the competitive nature of wholesale prices in N. Dakota and Minnesota make it possible to apply **another form of regulation**, which would be based on these prices and would not require hearings and other associated procedures of conventional regulatory bodies. More specifically, one could take the lowest of the Grand Forks and Winnipeg wholesale prices, add transportation costs and a competitive retail margin, and regulate retail prices on this basis. Only monitoring of Winnipeg and Grand Forks wholesale prices and Winnipeg retail prices would be required in this instance of regulation, as well as a decision on how often to change the regulated price, **a rather favourable case for this form, _prima facie_.**

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[10] See, for example, the testimony of the Nova Scotia Public Utilities Board Representative before the Standing Committee of Crown Corporations Relating to Gasoline Pricing in New Brunswick, as reported in the December 1986 report of that Committee, page 26.

[11] The reason is that with those retail outlets purchasing from major oil companies under 'arms length' arrangements, regulation could result in their having to sell at retail prices that would not cover costs of acquisition (wholesale prices charged to them by the majors are only 3.5 c/l below current retail). The regulatory authority would then possibly find it necessary to regulate wholesale price levels to these dealers.

[12] And obviously wholesale prices are in effect determined outside provincial boundaries. Even the sales contracts could conceivably be written in locations outside the province (refinery locations, for example), making it more difficult to regulate the respective prices.

The Commission nevertheless would still advise the market improvement route, recommended in no. 2 below, as a better and preferred alternative, and reservation of the regulatory route as last resort.

There are at least two reasons for this. First, regulation of this form would have to be based on a rationale, namely, that the market in North Dakota or Minnesota could easily be duplicated in Manitoba if only effective competition would prevail; therefore, the regulatory rule would be presented as a shortcut to this result. This rationale is subject to the rather uncomfortable criticism that it begs the question of whether in fact the markets are similar enough, from all points of view besides competition, and therefore whether regulation of this form is appropriate. The alternative view could be expressed that competition levels are the same in both markets, but other factors complicate the comparison. Proceeding to regulate on this basis, without hearings to take the companies' views into account, might be viewed as heavy-handed interference in markets, without hard proof that these markets are not competitive. Such a novel form of regulation may also run into problems from legal objections to its procedures.

Second, this form of regulation would not only have to force the price upon all market participants through legal coercion, but it might also run into the problem of needing to set wholesale prices and being unable to do so.[13] In contrast, the market improvement plan recommended below involves no coercion of anyone, but only the employment of optional market mechanisms and willing participants who would make effective competition and the associated prices a reality in the Manitoba market. Moreover, the plan is feasible.

It is of course recognized that if, for some reason or another, Grand Forks or Minneapolis cease to be the effective alternative supply points for gasoline, market improvement will not be feasible from those sources:[14] but, in that case, it will not be effective or acceptable to regulate on the basis of Grand Forks prices either. For example, if the Grand Forks racks rise above Winnipeg wholesale prices, it will not pay to import gasoline on the market improvement plan, but it will not pay to regulate on the basis of that price either. In another case, if the U.S.A. prohibits oil product exports the market improvement plan will not work; but regulation on the basis of Grand Forks prices when supply from that point is unfeasible will not be defensible either. Therefore,

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[13] See the two previous footnotes.

[14] Although it may be still possible to improve retail prices by using Canadian wholesale plus a competitive retail margin. It must be stressed that the market improvement plan contains a double correction to retail prices; one from lower wholesale, and one from competitive retail margins for independents. The second correction does not depend on the existence of such competitive wholesale alternatives as Grand Forks.

1. **While it is useful and necessary for the Government of Manitoba to have in place legislation empowering it to act in a regulatory role, the recommendation of this Commission on the matter of regulation is to avoid it, except as a last resort, for example if market improvement measures (recommended below) are attempted and not allowed to work.**

'The Government Should Provide a Mechanism Enhancing Competitive Pricing at Wholesale and Retail Level'

The general objective of the recommendations below is to improve the functioning of the wholesale and retail gasoline markets in Manitoba towards the goal of effective competition without coercing participants in these markets to set prices according to legal requirements, or to behave in any specified way.

More specifically, and in contrast to either form of regulation, these measures leave the current and future market participants to act as they themselves prefer in the market context, without legal, regulatory, or other forms of coercion imposed upon them. The recommendations do, however, attempt to make competitive wholesale prices available (through the recommended Agency) to anyone who wishes and is able to take advantage of them. They also make the entry to gasoline retailing as easy for a number of small operators as it is for larger participants, at the same time ensuring that the operators managing the recommended stations are satisfied to charge prices that pass the wholesale savings to the retail level. In summary, no legal, regulatory, or other coercive measures are suggested in these recommendations, nor is subsidization or targeted support by the government proposed. Any mechanisms or rules would exist as part of legal agreement made by willing participants, and would bind only the activities of these participants and no one else's.

This objective of improving the market should be generally acceptable in an economy in which the market is expected to do most of the work of resource allocation and distribution. More specifically, the major oil companies have already indicated to the Commission that policies towards effective competition are acceptable as long as they do not involve favoured treatment and subsidization by the government.

The suggested market improvement will ensure that, in the future, gasoline prices are tied to competitive standards and that no lapses can occur. Therefore,

2. **It is recommended that the Government of Manitoba take policy measures to enhance competition at the wholesale and retail level of gasoline markets in Manitoba. The following specific measures are recommended:**[15]

    a) **Hiring, or establishing (if no private firm is available) a commercial Agency** with know-how in importation laws and regulations regarding gasoline. The objective of this firm would be to enter into short and long-term contracts with both domestic and U.S.A. suppliers of gasoline at competitive prices. It would also be expected to attempt negotiation with oil companies which have excess storage facilities for petroleum products and have indicated to the Commission that they are open for negotiation to lease such facilities.

    The firm would be expected to make gasoline available, under commercial supply contract, to any retailer wishing to sell gasoline in the Province of Manitoba, and to any farmer or other firm entitled to use gasoline for business purposes.

    The agency would charge its customers a uniform price comprising the lowest of the Grand Forks and Winnipeg average racks plus any invoiced delivery costs to the customer's location. The agency would be expected to make profit by purchasing below racks, since this appears to be common practice.[16]

    Retailers' contracts with the agency would contain the provision that the final self-serve sales price ex-tax charged by the retailer to his/her customers should not exceed his/her c.i.f. acquisition cost plus a normal apparent margin.[17] This margin could be set at 1.5-2 c/l higher than that presently offered, on the average, to oil company branded dealers, and could perhaps be set higher than that for rural retailers operating in one-gas-bar locations, to compensate for lower volumes.[18] Retailers entering into agreements with the agency would be reported to the Department of Consumer and Corporate Affairs for monitoring purposes, along with their c.i.f. acquisition prices of gasoline and their apparent margin, if it differs from the standard one (for one gas-bar locations).

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[15] Subject to minor modifications that may be necessary to ensure thet the suggested contracts, leases and agreements conform to current laws.

[16] Data already presented in the report verify this with respect to the Winnipeg racks. Also, Grand Forks racks are quoted 'before prompt payment discounts'. Only actual trading experience, however, can settle the question of how much actual transaction prices are lower than the racks in Grand Forks.

[17] While this may appear to contravene the Competition Act, advice from the legal counsel of the Commission indicates that retail price control is of concern only when its intent is to reduce competition.

Retailers entering into agreements with the agency and found to charge prices higher than justified by agreed-upon margins and prevailing gasoline taxes would be asked, in future dealings, to purchase gasoline on consignment basis only, so that the integrity of the wholesale-retail price relationship may be preserved.

b) **The Government of Manitoba should purchase** [19] **a small number of strategically located Winnipeg gasoline stations and lease them,** at rates covering fixed capital and long-term maintenance costs plus a reasonable profit. **Lessees should be station operators** [20] committed to selling self-serve gasoline at prices equal to racks currently charged by the agency plus a maximum margin of 1.5-2 c/l over the current 3.5 c/l average margin to branded retailers. These operators should not be required to sell solely the agency's gasoline; they should be free to purchase gasoline from anywhere they please.[21]

The lease conditions of such operators should be such that they could break the lease at no cost at any time, if they so wished.

The lease would be breakable by the Government only in cases of violation of lease or gasoline contract conditions.

3. **These recommendations are expected to benefit users in both the city** of Winnipeg **and in rural and northern areas** in the following manner:

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[18] Assuming a target volume is established for such operators, the apparent margin for them could be set higher than 1.5-2 c/l by the proportion that their volume falls short of the target.

[19] Out of general funds, or preferably by temporarily increasing the gasoline tax by 1 c/l for a few months.

[20] Lessees of these stations need not be the operators themselves; the lessees could hire labour for whenever the station is operating.

[21] But their contract should contain some clause specifying that, should they decide to buy from elsewhere and charge a retail price over the specified one (as above) they would be required to return any excess revenues to the Government in the form of some charge.

a) City of Winnipeg prices will be lower.

b) Farmers, transport companies, other bulk users and Government Departments will have access to competitively priced wholesale gasoline should they find the current prices they pay to be higher.

c) Both rural and northern areas of the province may benefit with lower retail prices, even if the current city-rural and south-north price relationships are not changed. This may happen if either the industry responds to competition by lowering the wholesale prices to dealers, or if these dealers are willing and able to purchase gasoline from the Agency.

If lower retail prices do not occur through either of these ways, then native bands and other groups may find it to their advantage to develop their own retail facilities, supplied by the Agency.

4. **The above measures, once successful for gasoline, can be duplicated for other oil products.**

For an elaboration of the feasibility and long-term viability of these recommendations please see Appendix D below.

The data show that if the measures recommended in this report had been in place as of January 1986, Manitoba prices for regular leaded gasoline would have been lower on average by 2.30 c/l in 1986 and first quarter 1987 if the Agency simply always bought from the rack; or lower by 3.93 c/l if the Agency was buying from Grand Forks and incurring a generously overestimated transportation cost of 2 c/l; or lower by 4.73 c/l if the Agency bought at prices that large resellers bought from refiners in the Prairies; or lower by 5.51 c/l if the Agency bought always from the cheapest source of the three. The actual prices that would have existed if the Agency always bought from the cheapest source is illustrated in Figure 50. Moreover, implementation of the above recommendations would have lowered the Winnipeg city price of regular gasoline by at least 2 c/l, even as of March 27, 1987, when the city's position in the Canadian market had been restored. [22]

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[22] This may be seen from the following illustration. The apparent margin for the option of imported gasoline from Grand Forks was 8.93 c/l for that date. About five c/l of this margin would go to the retailer; a grossly overestimated transportation cost of 2 c/l is then applied to arrive at total charges of 7 c/l over rack, leaving at least 1.93 c/l for price reduction at retail. In fact, the amount by which unleaded gasoline prices would be lowered if the recommendations were implemented on that date is about 4 c/l, i.e., almost double the amount in the text (4 c/l) because of the fact that wholesale prices of leaded and unleaded gasoline are

It appears, then, that even after restoration of the city's relative position there is still room for improvement in Winnipeg's prices if the recommendations are adopted. This points to the fact that the lack of effective competition in the Manitoba market is not a phenomenon of 1986, but an ongoing problem in this market.

The ongoing problem of lack of competition in the Manitoba gasoline market is brought closer to the surface when one compares the amount by which prices could be reduced on average by the recommended regime with price reductions expected on the basis of historical relations (price differentials, and the relation between crude and retail price in 1985). As already mentioned in section 2.1, Winnipeg prices were expected to fall by an amount ranging from 1.43-2.02 c/l and, for most of the calculations, from 1.73-1.82 c/l, if the city's historical position and cost-price relations were to be maintained. However, if the recommendations had been in place in the same period, prices would have been lower by 2.30-5.51 c/l, depending on the source of supply used by the Agency (that is, depending on the efficiency with which the Agency could seek the cheapest source).

The fact that the recommended regime would bring prices lower than expected by historical standards reveals that these standards are not those of effective competition; rather, the Manitoba market is shown to have been suffering from less than effective competition even before the crude price fall.

As this report is being completed, the Manitoba retail market is experiencing occasional and scattered price-wars in the city of Winnipeg and elsewhere.[23] These, or any other, price-wars are not satisfactory substitutes of continuously competitive prices. Not only do these wars not last, but they may occasionally be followed by higher prices than before the war, to recover losses. Price-wars are not indications of competition, but of oligopolistic markets in which some participants have control over price. Peculiar as it may sound, therefore, price wars are not at all preferable to continuously competitive retail prices.

Also, the Manitoba retail market is recently[24] experiencing more than usual price dispersions at the retail level; retail prices for regular leaded gasoline range from 46.3 c/l to 47.7 c/l. This price dispersion may give impressions of genuine robust competition at retail. However, even if this phenomenon is optimistically interpreted as evidence of competition, it can only mean competition of very little force, as the wholesale prices that branded dealers have to pay

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about equal in the United States, while ex-tax retail prices in Manitoba are about 2 c/l higher for unleaded gasoline.

[23] Examples are the Marion St. price-war, and the Highway no. 1 war (between Wpg and Falcon Lake).

[24] Late July and early August 1987.

effectively set (along with any reasonable branded dealer margins) a non-competitive lower limit to retail prices in the first place.

In summary, current appearances are deceiving and action is still needed. This action must take place in two areas: wholesale prices must become more competitive, and retail margins must reflect costs and competitive profit levels. Competitive wholesale prices will prevail if Grand Forks or Minneapolis gasoline become effective alternatives to Manitoba supplies. Competitive retail margins will be obtained if a few independent dealers choose to mark up prices by such amounts.

The recommendations of the Commission are intended to achieve these two effects in the Manitoba gasoline market on a permanent basis.

Appendix A

CIRCULAR LETTER AND ITS RECIPIENTS

A.1 CIRCULAR LETTER

Room 202
University College
University of Manitoba
500 Dysart Road
Winnipeg, Manitoba
R3T 2M8
date

Dear Sir:

Re: Manitoba Retail Gasoline Price Inquiry

As you may be aware, the Government of Manitoba has appointed a Commission of inquiry with the mandate to investigate and report on aspects of gasoline pricing in the Province.

The Commission's research concerns include world/Canadian crude oil prices, wholesale (rack) prices to branded and unbranded dealers, and retail prices of gasoline in Manitoba, compared with other Provinces and some U.S.A. cities. They also include examination of possible measures which might be taken by Government to ensure that gasoline retail prices reflect crude prices adequately; examination of retail price differentials between Winnipeg and other areas in Manitoba; and recommendations on regulatory powers of the Government of Manitoba in relation to gas and oil-related products.

The Commission's interim report, dealing with only one aspect of its mandate, was submitted to the Government on April 7, 1986 (Copies may be obtained from the Deputy Minister, Department of Consumer and Corporate Affairs, Room 313, Legislative Building, Winnipeg MB. R3C 0V8). A final report is now in preparation.

I am writing to solicit any comments or concerns, regarding the above, which you might wish this Commission to take into account in its final report to the Government of Manitoba.

Your response to this request will be greatly appreciated. One of the Commission's objectives is to give full attention to concerns of groups and individuals such as yours.

If you also prefer a meeting, please so indicate in your response.

If, in addition, you wish the identity of your organization to be kept confidential, please so indicate.

Thank you for your cooperation.

Yours sincerely,

Costas A. Nicolaou
Commissioner
Manitoba Retail Gas Pricing Inquiry

A.2 LIST OF RECIPIENTS OF CIRCULAR LETTER

Integrated Firms

Chevron Canada Resources Limited
Husky Oil Limited
Imperial Oil Limited
Petro-Canada
Shell Canada Limited
Suncor Inc
Texaco Canada Inc
Turbo Resources Limited
Ultramar Canada Inc
Irving Oil
Consumers' Co-op Refiners Ltd.

Non-Integrated Producers

Alberta Energy Company Limited
Amoco Canada Petroleum Corp. Ltd.
Bow Valley Industries Limited
B.P. Canada Inc
Canadian Hunter Explorations Ltd.
Canadian Occidental Petroleum Ltd.
Canterra Energy Limited
Dome Petroleum Limited
Gulf Canada Corporation
Home Oil Company Limited
Mobil Oil Canada Limited
Norcen Energy Resources Limited
Ocelot Industries Limited
PanCanadian Petroleum Limited
Sask Oil and Gas Corporation
Sulpetro Limited

Pipeline Companies

Interprovincial Pipe Line Limited
Trans Mountain Pipe Line Corp. Ltd.

Transport Companies

Paul's Hauling Limited
Trimac Transport Services Ltd.

Non-integrated Marketers

Canadian Tire Corporation Ltd.
Domo Gasoline Corporation
Mohawk Oil Company Ltd.
Mohawk Oil Company Ltd.
Tempo Gasoline Stations

Local Independent Retailers

H. Chiarella

Petroleum Associations

Canadian Petroleum Association
Independent Petroleum Assn. of Canada
Prairie Petroleum Assn.

Manitoba Associations

Automotive Trades Association (Man) Inc.
Consumers' Association of Canada
Dominion Automobile Association
Keystone Agricultural Producers
Manitoba Association of Urban Municipalities
Manitoba Chamber of Commerce
Manitoba Motor Dealers Assn.
Manitoba Motor League
Manitoba Trucking Association
Recreational Vehicle Dealers Association of Manitoba
Tourism Industry Association of Manitoba
Winnipeg Chamber of Commerce

Appendix B

QUESTIONNAIRE TO MAJOR OIL COMPANIES, AND SUMMARY OF REPLIES

MANITOBA RETAIL GASOLINE PRICE INQUIRY QUESTIONS FOR OIL COMPANIES

1. In your opinion, which is the relevant rate of return to examine for profitability of a refining operation, the rate of return on capital employed (R.O.C.E.) or the rate of return on equity? Please explain.

   Company replies: Answers range from 'the rate of return on equity' to 'either can be used if care is exercised' to 'we have always quoted publicly the rate of return on capital employed' to 'R.O.C.E. shows how the management utilizes the company assets' to 'the rate of return on capital employed, because it is usually the only one available, and because R.O.C.E. is not influenced by leverage and the associated interest costs'.[25]

   The problem that the Commission has with R.O.C.E. in terms of public announcements is that the untrained listener would probably think it is the rate of return on invested capital; since R.O.C.E. is lower because of leverage, the false impression may be given that oil companies cannot even make a risk-free rate of interest on their investment.

2. Assuming that all crude oil cost decreases are passed on to refinery sales prices (with proper attention to lags) by how much would a drop of $1 in crude costs affect the profitability of refinery operations of your company?

   Company replies: Most answers agree that lower crude costs would affect refinery profitability favourably, if by a small amount, even if all crude savings were passed on to lower product prices. One company denies that profits would be affected, while another states that full costs are not always reflected in the market price.

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[25] One company took the opportunity of the question to suggest that, according to a capital asset pricing model (developed by Traynor, Sharpe and Lintner) and with some assumptions about parameters, the (unlevered) rate of return should be in the 15-17% range in 1985-87.

It is interesting that no reply refers explicitly to lower costs for circulating capital (crude inventory), when the industry made this point rather forcefully when crude prices were rising in the seventies.[26]

3. Please comment on the following statement: 'When an industry finds itself in difficulty due to unanticipated drop in demand for its products, it will have to go through a low profit period, and it is usually expected to adjust to the new level of demand by such drastic actions as plant closures etc. The low profit rates experienced throughout the adjustment period may appear, but are not really, onerous when it is recalled that past profit rates in any industry include risk premiums designed to cover precisely such unanticipated developments; neither would firms in the industry be expected to take advantage of other, unrelated developments (such as, for example, lower prices for their raw materials) to correct their profit positions temporarily (such as, for example, by not passing through all cost reductions). In any case, such a strategy would not be feasible in a properly competitive market.'

Company replies: Two answers claim that risk premiums have been too low or negative in the oil industry. Two others claim that the developments in demand during the eighties could not be foreseen, and therefore could not have been part of what a risk premium would cover.

Regarding the passing of crude cost reductions on to price: one answer suggests that margins improved as part of cyclical behaviour, market conditions permitting. It takes exception to the normative implications of the question posed, i.e., the specific ways in which a market with effective competition would correct the problem of low profit. According to this company, "to-day's markets must be studied as they are rather than in relationship to some ideal that is probably neither obtainable or desirable in a modern day economic sense."

Other answers suggest that market conditions may permit temporarily higher profits due to, e.g., lower crude costs.

Regarding the adjustment in capacity: most answers state that rapid adjustment in capacity is not easy in the refining sector due to exit barriers, degree of capital intensity, and degree of competition.

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[26] See, for example, the relevant comments in the Royal Commission on Petroleum Products Pricing (Isbister report), point 5.7, p.124, and elsewhere in that report.

4. Some analysts said, in 1986, that battered profit margins of refiners would delay the drop in gasoline prices that should follow the lower oil prices. Would you say this has happened anywhere in Canada, and if so, where?

   Company replies: All answers deny that this happened anywhere in Canada, pointing out that in some areas market forces forced prices down sooner than justified by FIFO costing methods.

5. How have your exports of products to the U.S. from the Prairie region refineries behaved in 1985 and 1986, both quantity and price-wise? Please provide specific data.

   Company replies: Answers are sensitive material, and will be kept confidential.

6. How did your company fare in the Vancouver, Toronto and Regina retail markets during 1986? Please give specific information. For example, how did your refiner's wholesale prices behave in relation to crude acquisition costs, and how did your prices to branded dealers relate to retail prices ex-tax?

   Company replies: Confidential information.

7. How close would you say the Chicago spot market prices (for WTI and Brent) have been to Edmonton postings since Feb 1986?

   Company replies: Companies agree with the Commission that crude oil postings track spot prices fairly closely. Two replies point out that spot prices may at times be more volatile.

8. What would you say is an approximate value for refining costs per barrel of Canadian crude (not including profits) at the 'normal' refinery utilization rate of 85 to 90% for Alberta refineries?

   Company replies: Most answers place approximate estimates of costs around 2.5-3.0 c/l

9. Could you please provide (if available) a cost curve relating processing costs to rate of utilization of typical refinery.

   Company replies: One company seized the opportunity of this question to point out that joint production makes specific cost allocation arbitrary, and as a consequence market factors assume a greater role in price determination of joint products. It also points out that relative demand strength (elasticity) and the availability of substitutes make demand factors more important than cost in price determination.

Others give information on the cost curve; still others do not give specifics.

10. What, in your estimation, has been the impact of the rack pricing system introduced by Esso and Shell? Are the rack prices to be viewed as actual transactions prices in all regions? And has their introduction allowed your company to take your branded dealers off consignment and support?

    Company replies: Most replies recognize rack prices as a simple price indicator to (non-refiner branded or unbranded) resellers who qualify. There is almost general agreement that they do not necessarily coincide with transaction prices (they may be higher, or lower).

    One company interprets the introduction of rack prices as associated with the attempt to take a number of non-refiner branded accounts off consignment or guaranteed margin.

    One company states that it has removed all temporary consignment and price support to branded dealers except from those on long-term contracts entered into before rack pricing. Another reports no branded dealers are on consignment or guaranteed support programs in Western Canada. Still another reports that it supports its retailers when and where necessary to remain competitive.

11. In your opinion, has the retail market in Winnipeg and Manitoba reacted fully to the recent fall in crude oil prices, or is it the case that refiners have withheld part of the fall in costs in order to improve their margins?

    Company replies: One answer maintains 'yes' on the basis of a comparison of data in December 1985 with data in April 1987. Another also maintains the same position by point comparison (Jan. 86 to May 1987), and by claiming that Winnipeg prices were at price-war levels as of January 1986; therefore, they should not have been expected to fall fully from that already low level. Another answer recognizes that retail did not reflect the full reduction in crude, but also points out that crude price increases have not been reflected either. Finally, others claim that retail responded fully, without supporting that claim.

12. Would you agree that, since Western Canadian refineries are on the average more efficient than those in the rest of the country, it might be reasonable to expect that Western Canadian product prices (ex-tax) should be comparatively lower?

    Company replies: Not all answers agree that western Canadian refineries are more efficient. One answer also doubts the statement, but continues the reply as if the statement is correct, and finds counter-balancing costs (other than refinery) which would offset possible refinery cost economies, finally stating that if any refining economies were to be passed to sustained lower prices they would cause uneconomic operations for other refiners, and capacity shutdowns. Another answer agrees that western refineries are more efficient and points out that if the savings from them were to be passed on to prices there would have been no purpose to the investment in these refineries in the first place.

13. What would you say is the effect on competition from the fact that majors in Canada control the bulk of refining, transportation and storage facilities for crude and products?

Company replies: One answer states that independent business has more effect on pricing and volume than the major companies. Another states that there is no particular harm from this control. Another answer points to extensive price-wars and the low returns in refining as evidence of extensive competition. Another denies that there is any evidence of lessened competition in Canada, also pointing out that the Canadian market is in fact a series of sub-markets with different mix of participants. Another answer states that there are no barriers to entry in any stage of the oil business (refining, transportation, and storage), though low returns in the downstream would not have been acceptable to potential entrants. Finally, almost all answers point to R.T.P.C. and its relevant findings on competition.

14. Do you have storage facilities in Manitoba? If so, please indicate the extent of their use (capacity utilization ratio) and their total capacity.

Company replies: Two companies state that their storage facilities are fully utilized. Another states no storage facilities, another no major storage, and insignificant excess capacity. Another company states existence of excess capacity and willingness to contract external use of it under sufficient economic incentive.

15. How would your company react to government policies designed to foster competition in the oil product business in Manitoba?

Company replies: Most answers indicate that there is enough competition in the market, and no additional policies are needed. Others indicate no objection as long as everyone in the market has to function under the same conditions (no particular advantages to anyone).

16. What, in your opinion, are the effects of a stronger Canadian dollar on the upstream component of the oil industry? On the downstream?

Company replies: Most agree that the upstream sector would be hurt from a stronger dollar. Answers regarding the downstream vary from 'little effect' to negative effect.

17. Could you please provide monthly detail of acquisition costs for crude oil in the refinery you operate for the years 1985 to 1987 (detail should include quantities acquired and prices paid).

Company replies: Replies confidential.

18. Could you please provide monthly inventories of crude and products in your supply system for Manitoba (or the Prairies) in terms of days' supply.

Company replies: Approximate lag times for the Winnipeg market range from 33 days to 45-60 to 60 to 65-75 days and higher than that for one company.

19. Could you please provide a description of the supply sources for the province of Manitoba gasoline (where crude is refined, who buys product from whom for retailing purposes)

Company replies: Replies confidential.

20. Could you please provide information on ownership of storage and distribution facilities in Manitoba.

Company replies: Replies confidential

21. What would you say was the state of the retail gasoline market in Winnipeg in 1984 and 1985 from the point of view of competition and margins?

Company replies: Market prices were generally 1-2 c/l below normal with dealer margins lower as well, according to one answer. Two other answers state depressed margins for Wpg in that period. Another states fairly brisk competitive activity as participants attempted to gain market share.

22. Have you experienced any increases in costs of refining in the year 1986 and if so could you give an estimate of such increases?

Company replies: One answer mentions 4-5% increase in salaries and benefits, and some increase in costs with lead content reduction. Another estimates variable operating costs (excluding crude oil-related costs) up 10%. Another states no significant change over 1985. Others avoided the question, and still others mentioned higher labour and processing arrangement costs.

23. What factors would you say determine differences in resellers margins by region?

Company replies: One answer included size of market, distribution costs, competition, availability of supply, government regulations, taxes, product mix and capital base. Another mentioned competition for wholesale business, and competition at retail.

24. How would you explain (a) the recent phenomenon of independents in Winnipeg (Can. Tire) offering substantial coupon savings without much advertisement, and (b) an incident according to which an independent attempting to advertize his/her coupons was immediately faced with an equivalent direct price cut by his competitor?

Company replies: Explained as one of many forms of competition.

25. Would you be prepared to allow use of excess storage facilities that you may have in Manitoba, for a fee?

Company replies: One company replied yes (and it also reported excess capacity); another replied yes, but reported no excess capacity.

26. Would you agree that competition should ensure, for residents of Manitoba, access to oil products under the same terms as the residents of North Dakota and Minnesota have available, ex-taxes?

Company replies: All answers maintain, in general, that the two markets are separate, therefore non-comparable. For example, one answer maintains that the price differentials are explainable by local cost of supply and competitive market conditions. Another argues in the same vein, maintaining that there is no reason for the price in Manitoba to be similar to that of N. Dakota or Minnesota; it also raises the spectre of loss of another refinery should the Manitoba market be lost to American suppliers.

27. Are there any recent (1986, 1987) changes in market conditions which may have resulted in less competition in Manitoba, in your opinion?

Company replies: One answer states no changes. Another suggests more intense competition. Another attempts to explain the recent relative price stability as part of the phase-cycle normally observed. Finally, another answer states that Manitoba's Bill 5, An Act to Amend the Trade Practices Inquiry Act, is a major deterrent to legitimate price competition.

28. How would you explain the differential in the price charged by refiners to own branded versus independent resellers?

Company replies: Most answers explain the differential in terms of local competitive factors in operation at a particular time. Over the long-run, the higher branded dealer prices would be expected to reflect delivery costs, no minimum volume requirements, specific product quality, credit card services, product advertizing and promotional programs, business counselling, etc.

29. In your opinion, what factors may be delaying the reduction in refinery capacity in Canada in response to lower product demand?

Company replies: One answer mentions high exit barriers, assurance of supply and political ramifications. Another says that it has indeed closed three refineries, and it cannot speak for others. Another states that it is hard to agree that closures were delayed, and although it agrees that refinery capacity is still in excess in some markets, it claims that that size of the remaining units and the number of participants is such that the logistics of further closures are more difficult and their benefits less certain than in earlier closures. Finally, another answer claims no delay, and that the excess refinery capacity remaining has found some export markets.

30. In your opinion, are Canadian refineries more or less efficient than U.S. refineries, overall?

Company replies: Companies found it difficult to generalize, but agreed some efficiencies may be present in the U.S. that are not available in Canada

31. What would you say is the relationship, if any, between retail gasoline prices in the U.S. Midwest and New York Harbour Wholesale gasoline?

Company replies: (The Commission's preliminary results had already been shown to the companies) One answer agrees that there is close relationship. Another gives a long answer mentioning differentials and essentially implying general agreement about relationships, though it maintains that differentials widen in falling markets and narrow in rising markets. Yet another agrees that mid-west wholesale prices would be affected by N.Y. Harbour prices. Two others mention lack of data and study of these relationships.

32. How would you explain the sensitivity of American refiner wholesale prices to gasoline prices in New York Harbour, and the relative insensitivity of Canadian wholesale prices to them?

Company replies: One answer states that there is no similarity between the U.S. and the Canadian retail markets due to tax considerations, distribution situations, population, ancillary businesses and product slates. Another two disagree that Canadian prices are relatively insensitive, and maintain that imports of products will keep Canadian prices honest. Another point to increasing sensitivity over time. Finally, another explains relative insensitivity by lack of maturity of Canadian racks; states that Eastern Canadian racks have been sensitive and responsive to U.S. racks because refinery capacity is close to demand and there is room for imports, while in Western Canada capacity exceeds demand and no imports are necessary.

Appendix C

COSTING OF JOINT PRODUCTS

The apportionment of total processing costs to joint products based on the sales realization method is effected through the following formulae:

$$C_i = [C_T + uC_T - Sq_k p_k] \cdot \frac{q_i p_i}{Sq_j p_j} = Cv_i \qquad (1)$$

where $C = C_T + uC_T - Sq_k p_k$; $v_i = \dfrac{q_i p_i}{Sq_j p_j} < 1$

and i,j = number of joint products
k = number of by-products

Equation (1) may be written:

$$C_i = C \frac{q_i}{Sq_j(p_j/p_i)} = C \frac{q_i}{SQ_j}, \quad \text{where } Q_j = q_j \,.\, (p_j/p_i). \qquad (2)$$

from (2), $C_i/q_i = C \cdot \dfrac{1}{SQ_j} = Cm_i$ where $m_i = 1/SQ_j$ (3)

where:

S is the summation sign

C_i is that portion of total processing costs allocated to joint product i

C_T	is total processing costs
u	is % surcharge on total processing costs
q_k	are joint products treated as by-products in the costing process
p_k	are the respective prices of by-products
q_i	is quantity of product i resulting from incurring processing costs C_T
p_i	is price of product i
q_j, p_j	are all the joint products and their prices
C	is total processing cost to be apportioned to joint products
m_i	is coefficient of apportionment of total cost to the unit cost of joint product i
Q_j	is the quantity of product j weighed by its price relative to that of product i.

In expression (2), if $p_i > p_j$, then $Q_j < q_j$ and m_i is then higher than if $p_j = p_i$. Therefore, C_i, and also C_i/q_i, are higher. That is, the higher the price of commodity i is in relationship to other commodity prices, the higher the total and the per unit cost apportioned to it.

In effect, the total quantity on the basis of which the apportionment is made is composed of units of each product which are not necessarily equal to the physical units but which instead are modified to reflect the importance of these units in total revenue as compared with the importance of the units being costed in the formula (product i). If, for example, product j's price is 1/2 of product i's price, we have $Q_j = 1/2\ q_j$, and $SQ_j < Sq_j$, i.e., m_i is higher than it would be if p_j was equal to p_i.

Other allocation methods (for example, by-product value, replacement value and import value) proceed under different formulae. For example, the by-product value method uses

$$C_i = [C_T + uC_T - Sq_k p_k] \qquad (4)$$

while the import value method uses formula (1) above, with import prices for p's instead of market prices. The replacement value method uses a more complicated formula.

The effect of a change in crude cost on the total cost of product i is shown by the first-order derivative of C_i with respect to C_T, i.e., by $(1 + u)v_i$ in formula (1), and by $(1 + u)$ in formula (4). On the other hand, the effect on the unit cost of product i is shown by $(1+u)m_i$ (formula no. 3).

The calculation of gasoline cost by proportional allocation of total cost to it proceeds by charging 1/159 of cost to each litre of gasoline. This is equivalent to assuming, in formula (1), that all prices are equal, in which case the charging is done in proportion to quantities of each joint product.

Since gasoline prices are normally the highest in the product slate, this treatment assigns less additional cost to gasoline than both the sales realization and the import value method would, and is therefore favourable to the industry in a period of falling costs.

Moreover, the realization method assigns less additional cost to the gasoline than the by-product value, since the relevant derivative is $(1 + u)v_i$, which is less than $(1 + u)$.

Also, this method assigns less additional cost than the replacement value method because the latter has the same price values in the expression v_i, but the ratio of quantities is higher. Its derivative, therefore is higher than that of the sales realization method.

In summary, allocation of cost changes to gasoline in the proportional manner used in this report is a treatment of the subject favourable to the industry under all usual costing methods.

Appendix D

ELABORATION OF THE RECOMMENDATIONS

D.1 THE COMMERCIAL AGENCY

Why Establish the Commercial Agency?

Because the Manitoba wholesale market would benefit from the addition of an alternative supplier with trading knowledge, access to capital, storage and credit facilities, and prepared to sell competitively priced wholesale gasoline to any retailer,[27] any farmer,[28] any business using gasoline, and any other user[29] on equal terms. The addition of such a supplier would thus increase effective competition in the Manitoba wholesale market.

Could Retailers/Farmers not Access Competitively Priced Gasoline by Themselves?

Not all of them: to access competitively priced gasoline (such as that available either from Grand Forks or Minneapolis, or from the Major oil companies at negotiated prices) one needs to have both the knowledge of laws and regulations and the economic power (large volume) to negotiate, and to buy/import gasoline at prices reflecting effective competition. Major independents seem to have both of the knowledge and the economic power, but they generally have no incentive to transfer their lower wholesale costs to lower retail prices; similarly, some farmers may be able to 'strike deals', but these deals are private and not common to all farmers, large or small.

Should the Agency be Private, What Would Its Incentive be to Remain in Business?

The Agency would be expected to post and charge FOB wholesale prices equal to the lowest of the posted racks in Grand Forks and Winnipeg. But it should normally be able to purchase at prices below rack, due to volume and/or prompt payment discounts available to buyers of its category. It would therefore have an incentive to remain in business for profit.

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[27] large or small, urban or rural

[28] large or small

[29] Subject to wholesale quantity constraints

Why Would the Retailer Margin Be 1.5-2 c/l Above that of Branded Dealers?

Because it appears enough for a viable retail operation. See below, section on retail operator viability, and also Section 11.2 in the text.

Why are One-gas-bar Town Operators Recommended Higher Margins?

Because the presumption is that the socially desirable solution is to have at least one gas bar in each town, even if sales are very low. With low sales it then becomes necessary to allow a higher margin per litre to cover expenses of the gas bar at lower levels of activity.

Why is Monitoring of Retailers' Prices Necessary?

To ensure that savings achieved at the wholesale level are passed on to the final users of gasoline.

Why are Invoiced Delivery Costs Charged to Retailers?

To reflect the delivered cost of the product to various locations. If retailers have more efficient ways of getting the product to their locations they may wish to buy FOB. This option would also be available to them, as in any other commercial contract.

Is there any Coercion Involved in Buying from the Agency?

No one is forced to purchase or continue purchasing from the Agency. Contracts are spot for purchasers, but the Agency always stands ready to supply.

Who Would Have an Incentive to Buy Gasoline from the Agency?

All operators leasing government owned stations would find it preferable to buy from the Agency as long as no one else offers to sell them gasoline at prices below the posted minimum at Wpg and Grand Forks. If someone does, they would buy from that supplier, since this would mean more money for them, and the Agency would lose their business.

The possibility of lessee operators of government-owned gasoline stations not buying from the Agency is real, since the Majors may wish this business for themselves. There is nothing wrong with this on the retail price front, since the retailers will still be charging only a maximum price 5 c/l above minimum racks. There is nothing wrong with the Agency standing idle either: its purpose was not to take business away from the domestic refiners, but to ensure that all wholesale buyers have access to competitively priced gasoline. If others, including the majors, wish to provide this gasoline they are free and welcome to do so. The Agency simply stands as an effective alternative supplier the moment gasoline is not available at competitive wholesale prices.

As far as other, non-lessee, operators are concerned, it would pay them to buy from the Agency as long as the difference between current retail price (ex-tax) and their purchase price from other sources is less than 5 c/l. The Commission's data indicate that large independents have made more than 5 c/l average margin (9.73 c/l) since June 1985 and therefore they will not normally be interested in buying from the Agency. The same may hold even for small independent dealers.[30]

Both of these categories of operators would probably have another disincentive from purchasing gasoline from the Agency; the practice may be thought to deprive them of access to other sources in the future.

On the positive side, once retail prices are reduced by the lessee operators, other small independents may find that the best margin they can make is the 5 c/l through purchases from the Agency. In the same vein, independent operators may decide to purchase from the agency and charge lower retail prices themselves, thus increasing their volumes of sales and total revenues.[31]

It will pay farmers and businesses as well as other wholesale customers to buy from the Agency as long as the delivered prices to them from other suppliers are higher than those charged by the Agency. Once again, if these categories do not buy there is indirect indication that they receive what they consider satisfactory competitive prices from alternative suppliers.

The Commission wishes to re-emphasize that the purpose of the Agency is not to take business away from other suppliers, but to act with competitive pressure on wholesale prices available to wholesale buyers. Therefore, as long as prices to them are competitive the Agency has completed its mission, irrespective of where they buy from.

However, the fact that non-lessee independent operators may not buy from the Agency indicates that the recommended measures may not work to lower prices in rural Manitoba unless final users in rural communities have control of retail operations in rural areas, and pass the wholesale savings to the retail level. This has happened in some rural communities already (Shamattawa, and Thompson Co-op gas bar come to mind).

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[30] Small non-importer independents would normally be expected to purchase at prices above the Winnipeg rack. The statistics (June 1985 to March 1987) suggest that, normally, the difference between current retail ex-tax and racks in Wpg would range between a maximum of 9.10 c/l and a minimum of 5.50 c/l, with average apparent margin of 7.30 c/l. It therefore would pay these independents to buy from the major refiners.

[31] Given the above statistics, an independent making an average apparent margin of 6.30 c/l (by buying at 1 c/l above rack) would only need to increase his/her volume by 12.6% at 5 c/l to make the same total total revenue. If lowering the price is expected to increase sales by more than 12.6%, it would then pay this operator to buy from the Agency.

D.2 LEASE OF GASOLINE STATIONS TO INDEPENDENT RETAILERS

Why Make Government-owned Stations Available to Retailers?

To make it possible for a small retailer to enter the business and behave as a competitive price-leader without capital and without the risk of losing that capital. In that way, entry is made equally free for him/her as it is for the larger independent and the major oil company.

Entry is easy in the retail sector of the business if one becomes a branded retailer, since the capital required and the risk associated with it are put up by the Major Oil Company. But branded dealers operate on a small margin over and above a relatively high wholesale price, and they therefore do not (and cannot) provide effective price leadership at retail.

Entry may also be easy for large independents, but they may have no incentive to behave as price leaders, passing the savings of lower wholesale to users; instead, they may follow prices set by costs to branded dealers plus the margins of these dealers, thus enjoying high apparent margins.

The measure recommended allows entry to participants purchasing gasoline at lower wholesale prices and passing the savings on to final users.

Is the Lessee of Government Stations not Given an Unfair Advantage?

No. Removing the risk of loss of capital from the small independent is equalizing the subjective risk conditions for him/her and the larger participants. $100,000 could be the life-savings of the small retailer, but an insignificant amount in the profit and loss statement of a large company.

Why is the Lessee Given the Right to Break the Lease at Will?

In case of price-war, the lessee may not be able to cover his/her gasoline costs, let alone his/her lease costs. He/she must then be able to walk away from the business without loss of capital or creation of liabilities. The small independent is thus allowed to walk into a ready business and operate it at a decent profit, and walk out of it at will if the profit disappears. The benefit to society is that his/her mode of operation is such that he/she passes wholesale level savings on to final users. On the consequences of closing the stations in case of price-wars see below.

What Should the Lease Charge Cover?

Lease charges to the retailer must reflect true costs of the capital investment, plus a normal rate of return, otherwise there will be subsidization and unfair advantage given to him/her over other market participants.

Why is the Lessee Dealer Allowed to Purchase Gasoline from Anywhere?

Because the purpose is not to restrict his/her or anybody else's business activity but to pass the savings from wholesale to retail prices. The retailer can purchase from anywhere as long as he/she charges no higher than the lowest posted wholesale plus the defined margin. If he/she can make more money by purchasing from suppliers other than the Agency he/she should have the freedom to do so.

D.3 FEASIBILITY AND LONG-TERM VIABILITY OF RECOMMENDATIONS

D.3.1 The Agency

(a) Institutional Feasibility/Viability

A Government or a Private Agency?

The simplest institutional form for the Agency would be a Government Purchasing/Selling Agency operating under specific guidelines of purchasing at the lowest possible wholesale price, and selling at the lowest posted wholesale plus delivery costs.

If a private firm is chosen as the institutional form, its financing for inventory and receivables should be provided by Government loan. To preclude the possibility that the firm might charge prices higher than lowest possible wholesale, the contract conditions on the financing should include a clause to the effect that any revenue of the firm over and above minimum wholesale prices is payable to the Government in the form of supplementary charge.

All this implies that the Private Agency has to be monitored.

Also, a backup Government Agency should always be in place, ready to operate in case of withdrawal/closure of the private Agency. See below (viability in price-war).

Can Other Agencies Operate?

No restrictions on other Possible Agencies should be put into effect.

(b) Economic Feasibility/Viability

How Would the Agency Cover its Operating Costs?

The Agency should be able to cover its costs from buying below posted wholesale, which appears to be common practice.

What are the Obvious Requirements of the Agency to Operate?

-Personnel (purchasing, sales, accounting, office)
-Office space, storage facilities, to be leased from available facilities or to be set up anew. Perhaps some distribution facilities, if they cannot be hired.
-Circulating Capital (for inventory maintenance and for account receivable maintenance).
-Other costs.

Is such an Agency Viable Economically Under Current Conditions?

Yes. In fact, there is at least one importer in Manitoba that has brought in and sold gasoline to farmers and rural communities.

Is such an Agency Economically Viable in a Situation of Price-War?

Losing business in price-war. The Agency will lose business if the firms already in the market act to protect their market share. It is most probable that the Agency's customers will then be offered more favourable terms (prices lower than minimum posted racks) and will therefore be lured away.

For example, farmers and other businesses buying from the agency will probably be approached privately by the competition and offered better prices; the same may probably happen with other rural buyers, and even the gasoline station lessees in Winnipeg may easily be lured away by prices lower than minimum posted racks.

Is this a problem? Not really; the fact that little wholesale business is left for the Agency verifies that competitive conditions prevail in the wholesale market.

Should the Agency Disappear once it Loses Clientele? No. It must remain poised (if inactive) to avoid possible recurrence of high wholesale prices. If the Agency is a private firm, however, it may decide to withdraw from the business, under the circumstances. Hence the suggestion above that a backup government Agency should always be in place, ready to set up if the private firm withdraws and wholesale prices rise.

What about Prices to Users? Prices will remain low at the user level, even if the Agency sells no gasoline whatsoever; actually, it will not be able to sell gasoline precisely because prices to users will be low.

First, farmers will be getting better prices than the minimum posted; second, rural buyers will enjoy similar prices, and will have a higher margin to pass on to final users if they wish to do so; and third, lessees of Wpg gasoline stations will be enjoying higher profits, while their retail prices will still be minimum racks plus margin of 5 c/l.

In summary, inactivity of the Agency means that its purpose has been achieved.

(c) Sociopolitical Feasibility/Viability

Why should Public Funds be Risked on the Agency?

The Government appears to have three obvious **options** at this time:

1. **Do nothing.** This would probably mean a continuation of current price conditions at wholesale, farmer, and retail level. This 'do nothing' policy would cost Manitobans an estimated $440,000 dollars per week. [32]

2. **Regulate.** Formal regulation processes would probably reduce prices to some extent, but these processes are costly, and costs are not recoverable. These costs (hearings, staff, etc) should be subtracted from any benefits enjoyed by consumers as a result of regulation. If the gross benefits are calculated to be equal to those of the market improvement plan suggested here (a rather optimistic assumption, given the need for conservative decisions by regulatory authorities) the net benefits would still be less.

   Moreover, all this ignores the fact that regulation of this industry might prove quite difficult, introducing distortions and side-effect costs difficult to calculate.

   The other form of regulation, on the other hand, not only involves coercion as all such processes do, but it also may not be feasible at the wholesale level, as indicated above.

3. **The market improvement plan.** Set up, lease and finance (through loans) the Commercial Agency and gasoline stations.[33]

   To give an estimate of circulating capital needed for inventories and accounts receivable let us assume that the Agency achieves a 10% share of the Manitoba market.[34] This will most certainly overestimate the capital required for Agency financing. Let us also assume that accounts receivable are financed for thirty days, and that inventories are worth two weeks' sales. The total amount of gasoline financed will then be approximately 13.8 million litres[35] which, at an estimated wholesale price of 20 c/l, requires $2.76 million.

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[32] Buying gasoline from Grand Forks as of March 27, 1987, would save 1.93 c/l at retail. See above, recommendation 2(b), pages 102-103.

[33] The calculations following are approximate and preliminary, defining ranges of costs and benefits rather than precise amounts.

[34] An extremely high share given that, for example, the average share of major oil companies in Winnipeg in 1985 was 13.7% for each.

Add to this the total estimated capital cost of five stations, approximately one and a half million dollars, to obtain $4.26 million for the total operation.

This amount is certainly grossly overestimated at each and every level of the calculation,[36] but it provides an estimated upper limit to the costs of the recommended plan. The funds invested in the recommended plan are mostly in either real estate, or gasoline station equipment, or gasoline stocks, or accounts receivable covered by product inventory at the customer level.

To calculate an approximate value of the maximum possible losses from this plan assume that the plan is in full operation and, for some reason, suddenly, no one wishes to participate in it any more; the Agency then hands over control of its inventory and accounts receivable, and all lessee dealers walk away from their leases.

The gasoline stocks now in the hands of the government will be obviously usable through its own operations. There are no losses on inventories, therefore.

Assume that disaster occurs in the collection process of accounts receivable, and only 50% of them are collected. Loss would amount to two weeks of product inventory (4.6 million litres) at 20 c/l, that is, $920,000.

Finally, assume that no one is interested in buying the gasoline stations as such, and therefore the equipment (gas tanks gas pumps, canopies, etc) are not recoverable. This may amount to another $1,000,000.

Also, to make the worst case possible, assume that the value of real estate has not appreciated; no gains from this side of the balance sheet.

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[35] Total retail consumption in Manitoba estimated at 23 million litres per week (Statistics Canada). Ten percent of that is 2.3 million, and six weeks of this amount is 13.8 million litres.

[36] The share of the market for the Agency is grossly exaggerated. The assumption that four weeks of sales are financed fully through accounts receivable is improbable. The assumption of two weeks inventory is also pessimistic.

Under this obviously disastrous and improbable scenario, total losses of government funds would amount to a maximum of $1.92 million.

The above scenario is the worst possible from all points of view: the initial costs of the plan are overestimated; the possible losses from its abolition are also grossly overestimated; and, finally, the possible savings from lower gasoline prices are also underestimated.[37] However, if the plan had operated in full for just five weeks before the disaster, it would have saved Manitobans a minimum of 1.93 c/l at the pump, and at 23 million litres retail consumption per week, this amounts to saving of over $2 million.

From the point of view of cost and social benefit calculations, then, it appears that the market improvement plan recommended involves very little risk of actual losses, even in the worst case imaginable. At worst, the government's losses in the disaster case described above are in fact taxes passed back to the public in the form of savings from the lower gasoline prices.

On the other hand, if the plan works normally, the cost/benefit calculation is as follows:

As long as the plan is in operation the government collects return through interest charges on the capital amount of $4.26 million, and through lease charges to retail operators. Meanwhile, the social benefits amount to approximately $440,000 per week. Thus, the entire capital cost would be entirely paid for in little more than nine weeks -a rather phenomenal rate of return.

In summary, then, the capital to be invested is $4.26 million; the benefits are a normal rate of return on capital invested plus a social return of almost one half million per week; and the risk of loss is at worst $2 million.

What if Restrictions are Imposed on Gasoline Trade?

As already mentioned above, even if there is no possibility of imports from the United States, there are some savings to be experienced from the recommended plan; more specifically, the minimum average saving that could have been experienced during 1986 and the first quarter of 1987 amounted to 2.30 c/l and it came from Winnipeg rack prices. Moreover, restrictions on trade appear improbable; not to act on the basis of such expectation would resemble mourning before death occurs, since savings are to be experienced until such an event takes place, and when it does there are no losses to worry about.

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[37] The saving is estimated on the basis of 1.93 c/l, which was derived by imposing a 2 c/l transportation cost, a rather exaggerated amount.

What if U.S. Suppliers are Coerced not to Supply Gasoline to the Agency?

First, this is an improbable event, given the number of participants in the U.S. wholesale market. If Grand Forks supplies could be controlled by someone, there would not be as effective competition as there is at the end of the Williams pipeline.

But even if the above is possible and suppliers either deny sales *ab initio* or interrupt sales later, the Agency can buy its own gasoline from the New York or the Gulf market and have it transported to Grand Forks like any other market participant.[38]

D.3.2 The Retail Operators

Is it Viable to Operate an Independent Retail Gasoline Station on 5 c/l Apparent Margin in the City of Winnipeg?

Current Branded Dealer margins are about 3.5 c/l in Manitoba. The average U.S.A. independent dealer margin in July 1986 was reported at its historical highest of 7.50 c/l[39] and it quickly fell to 4.90 c/l in November 1986, a value closer to its historical average.[40] Commission data show the margin to have been 4.98 c/l for Chicago from 1983 to 1986, and 3.66 c/l for Minneapolis in the same period. Moreover, the average independent dealer margin in Toronto since November 1985 averaged 5.24 c/l. The Commission believes that an apparent margin of 5-5.5 c/l is reasonable and sufficient for operation of independents. This contention is also supported by the fact that one Winnipeg independent dealer[41] discounts gasoline by over 5 c/l[42] when the average apparent margin for independent retailers in Winnipeg has been approximately 9.73 c/l.[43] This independent therefore must be content to operate with an apparent margin of less than 4.73 c/l.

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[38] Comparison of wholesale prices in Grand Forks with other markets shows the former higher in some cases. For example, bulk-purchase prices in N.Y. or the Gulf would probably net lower prices; but it must be recognized that such purchases are not equivalent to filling a tank-car in Grand Forks, either from the point of view of circulating capital or the knowledge of transport systems, or the availability of storage necessary for each of the two types of purchase.

[39] For all types of gasoline (leaded, unleaded, premium) and all types of sales (cash/credit, full-serve/self-serve). See Lundberg Letter, August 1986

[40] See Lundberg Letter, November 1986.

[41] Canadian Tire

[42] Through cash credit on next purchase. The customer also gets "store money" over and above this discount.

With a fairly common annual throughput of 2 million litres, an apparent margin of 5 c/l translates into $100,000 annually. Assuming annual lease costs of $25,000 and labour and other costs of $36,000, one may be able to make $39,000 annually, beyond salary and investment income.

What if Someone Establishes Another Gas Bar in a Previously Single-gas-bar town?

The target volume previously established for the single-bar operator will have to be removed, and his/her apparent margin will have to be set at 5 c/l. This is an uncomfortable change, but the initial contract must make it clear that the purpose of the target volume set for single gas bar towns is not to subsidize but to maintain a minimum level of service. Two gas bars in a small town will probably be in excess of needs, and this will create a problem that can only be solved by competition in the market. There is no rationale for government support in that case.

Is it not True that Federal Laws Prohibit Setting the Selling Price for Non-lessee Retailers Buying from the Agency?

If so, the gasoline may have to be consigned with these retailers.

Is Monitoring of Retail Prices not Costly?

Yes. This may require additional personnel.

What if a Sequence of Price Wars Brings Prices Below the Cost to Lessees?

The lessees can walk away from the business, returning the gasoline in the tanks to the Agency, with no loss whatever. The station need not open until prices return above acquisition costs of gasoline. As with the Agency, closed stations mean that the objectives of the government have been fully achieved.

Some may express the concern that, after two or three repetitions of price-wars, there may be no takers for the leased stations. But all one needs to operate the gas bar is to hire unskilled labour, while the station is operating. The Commission does not see why there would not always be applications to lease these stations on file with the government, as long as the procedure is kept simple.

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[43] For the period since June 1986.

D.4 POSSIBLE OBJECTIONS TO RECOMMENDED MEASURES

Establishing the Agency Would Interfere with the Free Market

Not really: any other company or agency can set up for similar business in Manitoba at any time; no one is interfered with, including the majors and their selling activities; no one is required by law or by any other fiat to buy gasoline from the Agency, or to sell gasoline to it at competitive prices. the Agency is just an alternative agent willing to supply gasoline at competitive prices in the Province of Manitoba, to anyone who wishes to buy.

The Recommended Measures are Redundant, since Effective Competition Exists Already in the Manitoba Market.

The Commission would be happy to have found that its recommendations are in fact redundant. But since the data do not support the argument that effective competition exists in Manitoba, the recommendations stand. Those market participants who believe that effective competition is already in place need not worry, since if they are right the recommendations will be totally ineffective.

The Government in Effect Subsidizes the Private Agency

The Government provides loans to the Agency in a manner similar to other loans given to business, under the same terms. In fact, the only reason that loans are recommended by the Commission is that, through them, it will be possible to have Agency wholesale prices not higher than minimum posted racks. If this objective could be achieved in another way, the loans would not have been recommended.

What if Consumers do not Patronize Leased Stations Sufficiently to Make Competitors Lower their Prices?

This is possible, particularly given the small number of stations recommended for lease. If it happens, the government must deduce that gasoline prices are important only to a small subset of Manitoba consumers.

The Commission is in Fact Regulating when it Controls the Price that Lessee Retailers and Others Buying from the Agency can Sell at.

The Commission does not control that price; but it does create a disincentive for the lessee who ponders selling at prices above it. On the other hand, no one is forced to buy from the Agency, so no coercion is involved. The Commission is not prepared to recommend that the Agency make gasoline available at competitive prices to retailers who could then turn around and charge unjustifiably high prices to final users. Such retailers must go find their own supplies.

It is Dangerous to Become too Reliant on the Grand Forks Market Because of the Possibility of Shortages in the Future.

The recommendations do suggest purchases from the Grand Forks market when its wholesale prices are competitive. No excessive reliance is placed on that market; if its prices are high, or if shortages occur, the Winnipeg racks can be used.

The Fact that Grand Forks Prices are more Responsive Raises the Possibility that they may Become, at Times, Higher than Winnipeg Racks. This is Important if the Agency Must Sign Longer Term Contracts to, for example, Ensure Supply.

The Grand Forks racks have rarely risen above Winnipeg racks, but even if they do, the Agency does not have to be buying every single day or week from Grand Forks, even if it has a long-term contract.

Appendix E

TABLES

TABLE A1: Canadian Oil and Liquids Production

Year		Total Canadian Production[1] m^3/day	Top 20 Company Production[2] m^3/day	Top 10 Company Production[3] m^3/day	Top 5 Company Production[4] m^3/day
1985	Qty	288,181	215,348	169,308	105,719
	%	100%	75%	59%	37%
1980	Qty	281,247	217,100	171,040	113,090
	%	100%	77%	61%	40%
1975	Qty	275,834	240,223	181,479	120,604
	%	100%	87%	66%	44%

Sources:
1 - Statistics Canada (26-213), 1985, 1980, 1975.
2 - Oilweek, June 16, 1986.
3 - Oilweek, June 14, 1982.
4 - Oilweek, May 17, 1976.

Notes:

Oil and liquids production includes conventional and synthetic crude, pentanes plus, condensate and natural gas liquids (ethane, propane and butane).

TABLE A2: Major Integrated Company Oil and Liquids Production

Company	1985 Product.[5] m^3/day	(% of Total)	1980 Product.[6] m^3/day	(% of Total)	1975 Product.[7] m^3/day	(% of Total)
Imperial	28,000	9.7	34,700	12.3	42,130	15.3
Texaco	23,400	8.1	24,000	8.5	22,099	8.0
Petro-Can	17,900	6.2	11,400	4.1	---	---
Gulf Can.	17,000	5.9	22,300	7.9	20,827	7.5
Shell Can.	10,700	3.7	11,300	4.0	13,021	4.7
Total	97,000	33.6	103,700	36.8	98,077	35.5

Sources:
5 - Oilweek, 1986
6 - Oilweek, 1982
7 - Oilweek, 1976

TABLE B1: Canadian Refining Capacity[1]

Year	Number of Firms	Number of Plants	Total Refining Capacity m³/cd
1986	12	28	310,220
1985	13	29	321,690
1980	15	39	396,302
1975	17	40	334,014

Source:

1 - Oilweek; June 9, 1986, June 10, 1985, June 9, 1980 and June 23, 1975.

Notes:

- m³/cd means cubic metres per calendar day.
- Total capacity in 1986-1980 includes a 27,820 m³/d Petrosar refinery in Ontario which is reported to produce mainly petro chemical products. 1980 data includes an inoperative 7,630 m³/d Texaco plant and the mothballed 15,900 m³/d refinery in Come-by-Chance, Newfoundland.

TABLE B2: Refinery Closures[2]

Company	Location	Capacity	Date
Gulf	Montreal	11,770	Jan. 1986
Texaco	Edmonton	4,450	June 1984
Gulf	Calgary	2,050	Dec. 1983
Esso	Montreal	12,600	late 1983
Shell	Oakville	7,000	summer 1983
Shell	Winnipeg	4,700	summer 1983
Ultramar	Holyrood	1,910	June 1983
BP Canada	Montreal	11,900	May 1983
Gulf	Kamloops	1,510	spring 1983
Texaco	Montreal	11,800	Feb. 1983
Gulf	Point Tupper	12,600	Sept. 1980

2 - Oilweek, June 9, 1986.

TABLE B3: Total Refining Capacity of Major Integrated Firms[3]

(Esso, Gulf, Shell, Petrocan and Texaco)

Year	No. Plants	(% of Total)	Total Capacity m^3/cd	(% of Total)
1986	19	68	194,280	63
1985	20	69	205,210	64
1980	26	67	228,926	58
1975	26	65	218,604	65

Sources:
3 - Oilweek, 1986, 1985, 1980 and 1975

Notes:
- 1975 data includes the Regent Refining plant in Port Credit, Ontario which is owned by Texaco.

TABLE B4: Capacities of the Top 5 Refiners[4]

Year & Company	Number of Plants	Total Capacity m^3/cd	% of Total Capacity
1986			
Petro-Canada	7	66,470	21.4
Esso Petroleum	5	66,000	21.3
Shell Canada	5	42,990	13.9
Irving Oil	1	37,760	12.2
Texaco Canada	2	18,820	6.1
Total	20	232,040	74.9
1985[2]			
Esso Petroleum	5	65,700	20.4
Gulf Canada	5	48,580	15.1
Shell Canada	5	42,990	13.4
Irving Oil	1	37,760	11.7
Petro-Canada	3	29,660	9.2
Total	19	224,690	69.8
1980[3]			
Imperial Oil	6	76,790	19.4
Gulf Canada	8	61,360	15.5
Shell Canada	6	46,902	11.8
Texaco Canada	5	41,600	10.5
Irving Oil	1	37,760	9.5
Total	26	264,412	66.7
1975[4]			
Imperial Oil	8	87,886	26.2
Gulf Canada	8	56,948	17.0
Shell Canada	6	48,332	14.4
BP Canada	2	22,576	6.7
Irving Refining	1	19,634	5.9
Total	25	235,376	70.2

Sources:

4 - Oilweek, June 9, 1986, June 10, 1985, June 9, 1980 & June 23, 1975.

Notes:

- All percentage of total capacity figures are slightly lower than the actual case due to the inclusion of Petrosar and inoperative plants.

TABLE B5: Prairies Refining Capacity[5]

(Alberta, Saskatchewan & Manitoba)

Year & Company	No. of Plants	Total Capacity m³/cd	% of total Prairie Capacity
1986			
Esso Petroleum	1	26,300	37
Petro-Canada	2	21,360	30
Shell Canada	2	8,800	12
Consumers Co-op	1	6,840	10
Turbo Resources	1	4,390	6
Husky Oil	1	3,740	5
Total	8	71,430	
1985[8]			
Esso Petroleum	1	26,000	37
Gulf Canada	2	21,360	30
Shell Canada	2	8,800	12
Consumers Co-op	1	6,840	10
Turbo Resources	1	4,390	6
Husky Oil	1	3,740	5
Total	8	71,130	
1980[9]			
Imperial Oil	1	24,010	41
Gulf Canada	3	16,210	28
Consumers Co-op	2	6,840	10
Shell Canada	1	5,565	12
Texaco Canada	1	3,820	7
Husky Oil	1	1,820	3
Total	9	58,265	
1975[10]			
Imperial Oil	3	30,874	51
Gulf Canada	3	14,722	25
Shell Canada	2	5,246	9
Consumers Co-op	1	3,975	7
Texaco Canada	1	3,339	6
Husky Oil	1	1,781	3
Can. Propane	1	167	0.3
Total	12	60,104	

Sources:
5 - Oilweek, 1986, 1985, 1980 and 1975

TABLE B6: Refinery Utilization Rates[6]

Year	Canada	Prairies (AB., Sk., & MB.)
1986	74%	77%
1985	72%	78%
1984	77%	84%
1983	71%	81%
1982	60%	78%
1981	71%	94%
1980	76%	99%
1975	81%	78%

Source:
6 - Oilweek, various issue[illegible]
Statistics Canada (45-004) December 1975, 1980-86.

Notes:

- Utilization rates are annual crude runs as a percent of April-June refinery capacity.

- the above utilization rates, may be somewhat low due to the inclusion of Petrosar and inoperative refinery capacities in the total capacity figures used in the calculations.

TABLE C1: Retail Gasoline Outlets in Canada[1]

Year	No. Outlets	No. owned by Refiner/Marketers	% Total	No. owned by independents	% Total
May/86	19,424	17,866	92	1,558	8
June/85	20,154	18,721	93	1,433	7
June/84	20,681	19,537	94	1,144	6
June/83	21,856	20,713	94	1,251	6
Nov./82	21,964	20,713	94	1,251	6
Nov./81	22,805	21,308	93	1,497	7
June/80	24,029	22,646	94	1,383	6

Sources:
1 - Oilweek, 1986-1980.

Notes:

- The Oilweek survey DOES NOT include outlets operated by major retail chains and markets with 10 or less stations.

- Refiner/marketers include B.P. Canada, Chevron, Co-op, Gulf, Husky, Esso, Irving Oil, Petro-Canada, Petrofina, Shell, Suncor, Texaco, Turbo and Ultramar. An example of an independent is Domo.

TABLE C2: Outlets Owned by Major Integrated Firms[2]

Year	Shell	Imperial	Gulf	Petrocan	Texaco	Total
1986 - No.	3459	3045	--	3890	2158	12,552
- %	18	16	--	20	11	65
1985 - No.	3470	3431	2516	2467	2238	14,122
- %	17	17	12	12	11	70
1984 - No.	3399	3652	2487	2625	2661	14,824
- %	16	18	12	13	13	72
1983 - No.	3465	3797	2496	2976	2769	15,503
- %	16	17	11	14	13	71
1982 - No.	3628	3719	2508	1367	2848	14,070
- %	17	17	11	6	13	64
1981 - No.	3624	4125	2596	1350	2933	14,628
- %	16	18	11	6	13	64
1980 - No.	3754	4386	2770	372	3538	14,820
- %	16	18	12	2	15	62

Sources:
2 - Oilweek, 1986-1980.

TABLE C3: Retail Gasoline Outlets Owned by Major Integrated Firms in the Prairies (AB, SK, MB)[3]

Year	Shell	Imperial	Gulf	Petrocan	Texaco	Total
1986 - No.	820	829	--	976	464	3089
- %	18	19	--	22	10	69
1985 - No.	806	961	998	191	395	3351
- %	18	21	22	4	9	74
1984 - No.	826	975	975	201	474	3451
- %	18	21	21	4	10	76
1983 - No.	806	1002	968	194	468	3438
- %	17	21	20	4	10	73
1982 - No.	815	1013	969	187	472	3456
- %	18	22	21	4	10	76
1981 - No.	791	1194	970	189	481	3625
- %	17	25	20	4	10	76
1980 - No.	838	1261	1136	180	619	4934
- %	16	25	22	3	12	78

Sources:
3 - Oilweek, 1986-1980.

TABLE C4: Top 4 Retailers in Manitoba[4]

Year & Company	No. Outlets	% of Outlets in Manitoba
1986		
Shell	306	27
Petrocan	239	21
Imperial	224	20
Texaco	128	11
Total	897	79
1985		
Shell	288	26
Gulf	239	22
Imperial	237	21
Texaco	94	8
Total	858	77
1984		
Shell	301	26
Imperial	242	21
Gulf	227	20
Texaco	115	10
Total	885	77
1983		
Shell	304	24
Imperial	270	21
Gulf	233	18
Texaco	117	9
Total	924	72
1982		
Shell	304	26
Imperial	267	23
Gulf	238	20
Texaco	118	10
Total	527	79
1981		
Imperial	329	26
Shell	296	24
Gulf	238	19
Texaco	121	10
Total	984	79
1980		
Imperial	336	25

Shell	308	23
Gulf	269	20
Texaco	147	11
Total	1060	79

Source:
4 - Oilweek, 1986-1980.

TABLE D1: Provincial and Federal Taxes on Gasoline (As of June 1, 1987)

Jurisdiction	Tax on Unleaded Gasoline	Rank (1=highest taxation	Tax on Leaded Gasoline	Rank (1=highest taxation)
Quebec	14.40	1	14.40	1
Newfoundland	9.80	2	9.80	2
Federal	9.05	3	9.05	4
Prince Edward Island	8.90	4	8.90	5-6
N.W.T.	8.70	5	8.70	7
Nova Scotia	8.30	6	8.30	8-9
Ontario	8.30	7	8.30	8-9
New Brunswick	8.20	8	7.70	10
Manitoba	8.00	9	8.90	5-6
British Columbia	7.09	10	9.09	3
Saskatchewan	7.00	11	7.00	11
Alberta	5.00	12	5.00	12
Yukon	4.20	13	4.20	13

Note: Vancouver motorists pay an extra urban transit tax of 2.5 c/l as of April 1, 1987.

TABLE D2: Average Annual Sales per Retail Outlet

in thousand gallons per year

	Winnipeg		Toronto	
Year	Private brands	Industry	Private brands	Industry
1974	361	329	573	404
1980	440	518	625	573
1985	447	467	N/A	N/A

Source: For 1974, 1980, Esso's submission to the R.T.P.C.

Table E1: Exports of Petroleum Products: Prairies, Actual Exports (m^3)

Month	Motor Gasoline	Middle Distillate	Aviation Turbine Fuel	Heavy Fuel Oil	Partially Processed Oil	Total
June/85	20,680	17,440	--	22,226	10,631	70,941
July/85	41,440	19,473	--	14,350	7,428	82,691
August/85	40,632	29,412	--	14,603	7,632	92,279
September/85	26,914	26,648	--	11,289	9,715	74,566
October/85	29,520	39,189	--	7,069	5,234	81,019
November/85	27,417	45,513	6,435	3,481	--	82,846
December/85	16,223	30,667	9,214	3,056	--	59,160
January/86	7,197	21,390	12,190	6,235	--	46,942
February/86	4,302	9,030	7,694	4,899	--	25,225
March/86	16,848	31,858	9,274	2,348	--	60,328
April/86	21,715	27,031	8,258	4,575	--	61,579
May/86	27,598	30,317	7,281	1,225	--	66,421
June/86	23,372	23,900	7,215	5,638	--	60,125
July/86	18,810	12,960	9,865	2,988	--	44,623
August/86	33,064	32,700	8,444	2,423	--	76,631
September/86	23,273	28,251	7,991	4,559	--	64,080
October/86	19,055	33,456	10,177	1,302	--	63,990
November/86	17,032	26,856	11,256	3,735	--	58,879

Table E2: Average Export Prices: Prairies (c/l)

Month	Motor Gasoline
June 1985	28.33
July	28.65
August	29.13
September	28.41
October	27.10
November	27.37
December	26.87
January 1986	*
February	19.92
March	15.31
April	*
May	16.42
June	17.39
July	14.82
August	15.03
September	16.02
October	14.60
November	14.58

* = confidential

Source: National Energy Board (NEB)

TABLE E3: Price Comparisons

Date	Average Realized Prices[1]		Average Export Prices[2]	Difference Between Export & Reseller Prices	
	Branded (c/l)	Reseller (c/l)	(c/l)	(c/l)	%
January/86	36.36	29.93	*	--	--
February	36.85	29.47	19.92	9.55	32
March	33.62	26.68	15.31	11.37	43
April	27.91	21.84	*	--	--
May	27.36	20.45	16.42	4.03	20
June	28.68	22.05	17.39	4.66	21
July	28.50	20.56	14.90	5.66	28
August	28.47	18.88	15.03	3.85	20
September	28.47	18.76	16.02	2.74	15
October	28.07	17.99	14.60	3.39	19
November	27.04	17.98	14.58	3.40	19

* - confidential

Source:
1 - EMR, OPMAD
2 - NEB

Table E4: Prairie Exports of Gasoline as Percentage of Production

Date	Refinery Production[1] (m^3) MB	SK	AB	Total	Total Product Exports[2]	Exports as % of Production
June/85	Nil	104,017	685,207	789,224	20,680	2.6
July	"	123,522	724,813	848,335	41,440	4.9
August	"	98,826	781,665	880,491	40,632	4.6
September	"	67,909	643,589	711,498	26,914	3.8
October	"	50,632	684,461	735,093	29,520	4.0
November	"	57,534	650,846	708,380	27,417	3.9
December	"	75,330	701,084	776,414	16,223	2.1
January/86	"	100,044	642,137	742,181	7,127	1.0
February	"	87,150	562,239	649,389	4,302	0.7
March	"	47,748	588,744	636,492	16,848	2.6
April	"	23,059	478,054	501,113	21,715	4.3
May	"	111,527	496,079	607,606	27,598	4.5
June	"	101,654	716,414	818,068	23,372	2.9
July	"	100,642	764,973	865,615	18,870	2.2
August	"	110,404	781,440	891,844	33,064	3.7
September	"	107,796	607,124	714,920	23,273	3.3
October	"	30,893	677,018	707,911	19,055	2.7
November	"	95,762	613,173	708,935	17,032	2.4

Source:
1 - Statistics Canada 45-004
2 - National Energy Board, NEB form 307

TABLE E1: Comparison of Winnipeg and Toronto Retail Margins

	Winnipeg	Toronto	Winnipeg-Toronto Difference	
			in c/l	%
1. unadjusted margins				
(a) off rack	7.30	5.25	2.05	39%
(b) by negotiation	9.73	4.38	5.35	122%
(c) by importation	10.94	6.00	4.94	82%
2. Adjusted margins				
by 10.6%				
(a) rack	6.60*	5.25	1.35	25%
(b) negotiation	8.79	4.38	4.41	100%
(c) importation	9.89	6.00	3.89	65%
by 42%				
(a) rack	5.14*	5.25	-.11	-2%
(b) negotiation	6.85	4.38	2.47	56%
(c) importation	7.70	6.00	1.70	28%

The data show that, even after adjustments for different volumes, Winnipeg resellers enjoyed higher margins that their Toronto counterparts (see chapter 11, section 1.3 for details).

* The adjusted margin of 6.60 c/l gives the same total receipts with the Toronto industry volume of 573,000 gal/year (for 1980) as the unadjusted margin of 7.30 c/l yields with the Winnipeg industry volume of 518,000 gallons per year. Similarly, the adjusted margin of 5.14 c/l yields the same revenue with the Toronto private brand volume of 625,000 gallons as the unadjusted margin of 7.30 c/l yields with the Wpg private brand volume of 440,000 gallons (for volume values see Table D1, for the year 1980).

An alternative way to compare margins taking account of volume is to calculate total gross amounts collected on the basis of actual volume. and actual unit margins (unadjusted). Using volumes from Table D2 (for 1980) and unadjusted unit margins from the present Table, one may calculate these totals to show that Winnipeg resellers enjoyed higher total gross revenues, despite the lower sales volumes.

Table E2: Average Retail Gasoline Margins for Independent Dealers, U.S.A.

		Margins November 1986			
Type of Gasoline	% of Sales of Each Kind of Gasoline	on Self Serve*	on Full Serve**	Weighted margin***	Contribution to average margin****
RU	50.88	6.40	36.71	13.98	7.11
RL	25.62	2.67	31.08	9.77	2.50
PU	23.44	11.11	38.97	18.07	4.23
				US cents/US gallon:	13.84

which is equivalent to Cdn 4.90 c/l

* Self-serve constitutes 75% of sales.
** Full-serve constitutes 25% of sales.
*** 75% of self-serve margin and 25% of full-serve margin.
**** This contribution is calculated by multiplying the weighted margin by type of sale (column 5) with the percentage of sales of each type of gasoline (column 2).

Source: Lundberg Letter, December 5, 1986. Original data in U.S. cents per U.S. gallon.

Appendix F

FIGURES

Figure 1

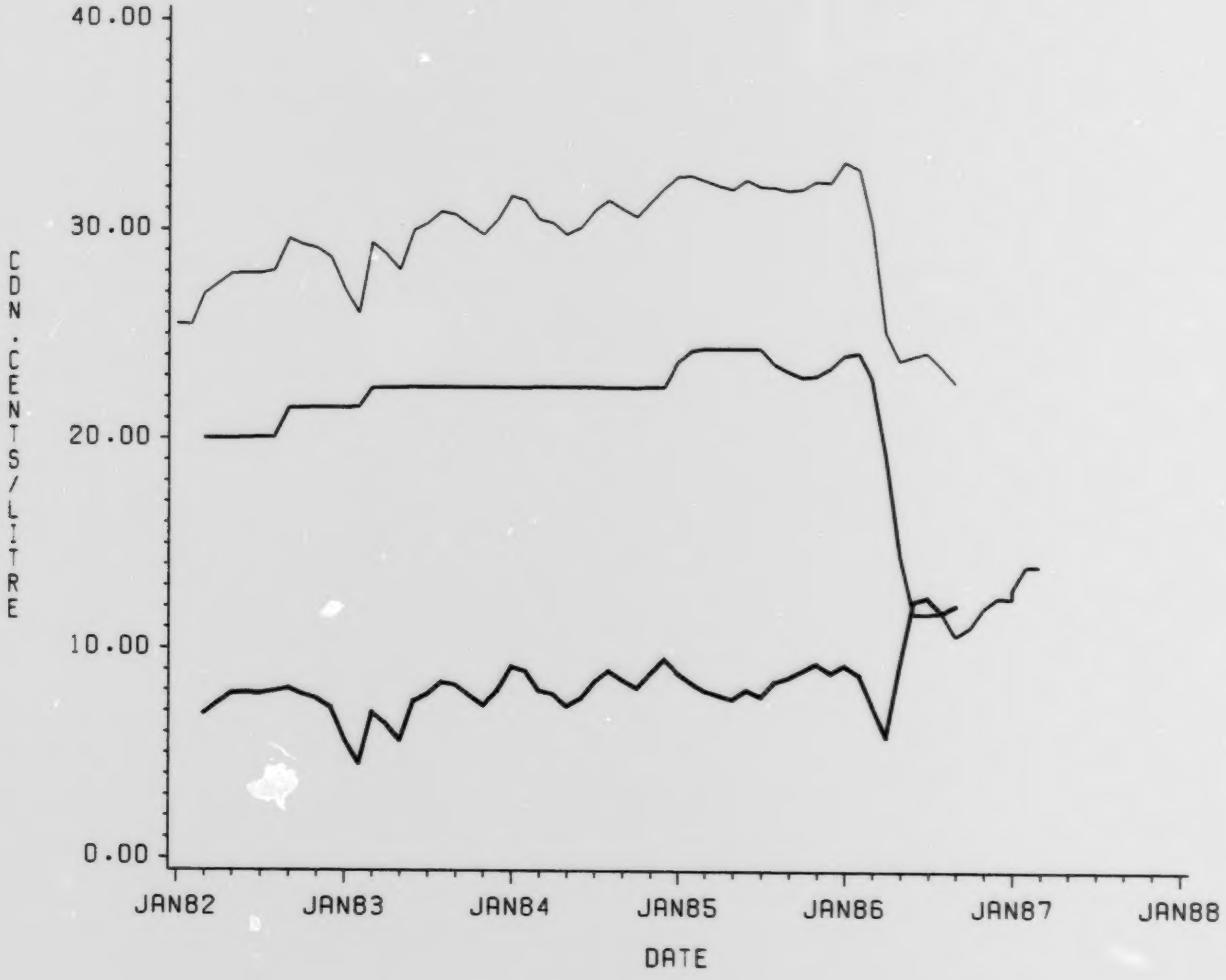
CDN REFINERS' APPARENT MARGINS: CDN AVERAGE

Defined as Difference Between Realized Prices and Acquisition Costs

Realized Prices are av. to all Categories of Buyers, Reg. Gasoline

–LEGEND–

THIN LINE(Realized Prices to All Categories of Buyers, CDN)
MEDIUM LINE(Refiners Acquisition Costs)
THICK LINE(Refiners Apparent Margin, CDN)



–REMARKS–

The relevant lag to apply here is only for refinery process/storage. This lag excludes time from well–head to refinery. We assume a 2–mo. lag, which is favourable for the industry (considering that the total

Refiners apparent margins are fairly constant during the whole period indicating that the raw materials/selling price relation was constant If rates of return were low in some years in the 80s this must have been due to excess capacity and low sales volumes.

Figure 2

REFINERS APPARENT MARGINS: PRAIRIES VERSUS CDN AVERAGE

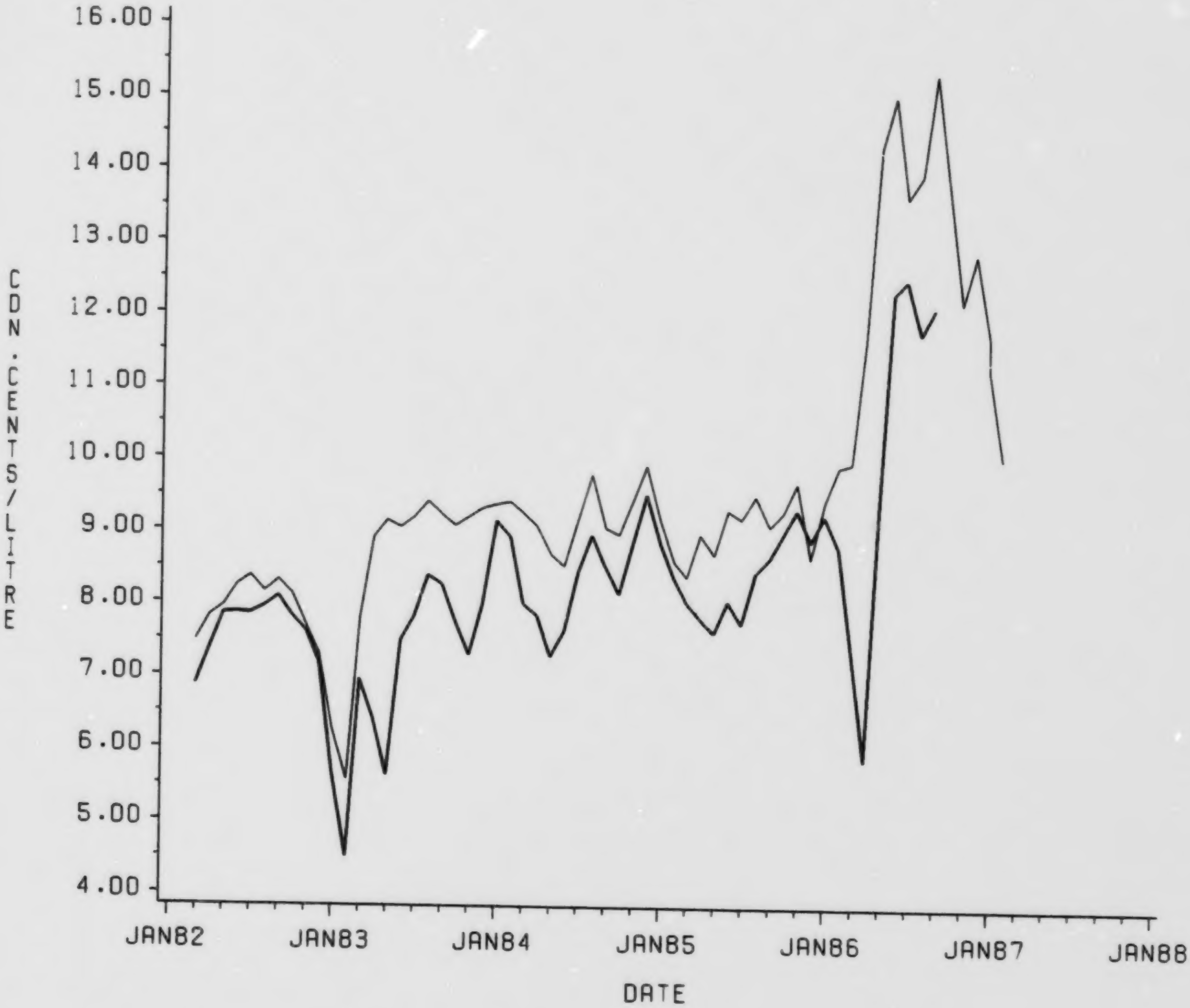
Defined as Difference Between Realized Prices and Acquisition Costs

Realized Prices are average prices charged to all Buyers of Reg. Gas.

-LEGEND-

LINE1 is thinnest solid, LINE5 is thinnest broken

LINE1(Prairies), LINE2(Cdn Average)



-REMARKS-

The relevant lag to apply here is only for refinery process/storage. This lag excludes time from well-head to refinery. We assume a 2-mo. lag, which is favourable for the industry (considering that the total Manitoba lag from wellhead to pump is reported less than 2.5 months). The average margin for Prairie Refiners was 8.71 c/l in 1982-85. while the average Canadian margin was 7.88 c/l in the same period. Respective margins for 1986-87 were 12.34 and 9.92 c/l. Canadian typical costs of refining were 2.5-3.0 cents per litre.

Figure 3

CRUDE OIL PRICES

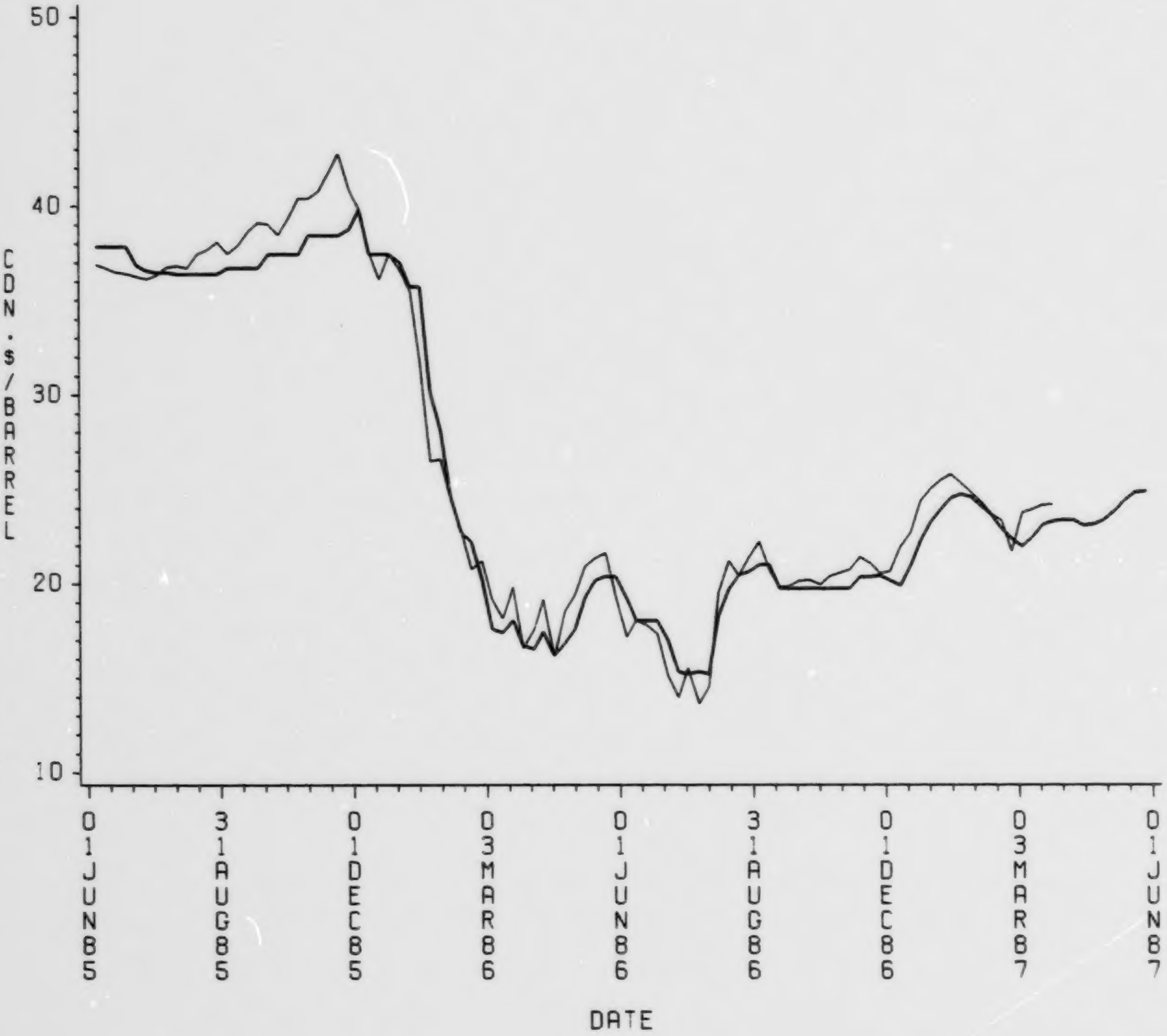
Aver. Spot Crudes versus Edmonton Crude Postings

Prices are averages – in Canadian dollars per barrel

–LEGEND–

THIN LINE(Average of: WTI,Brent Crude Spot Prices)

MEDIUM LINE(Edmonton Postings, Can.Par, Average)



–REMARKS–

Crude Oil Market Driven by International Forces

Canadian Posted Crude prices have generally followed international spot market prices fairly closely, particularly since Jan. 1987. (Spot crude and Can Par crude averaged $26.71/bbl and $26.21/bbl respectively during the whole period). This indicates that the Canadian crude oil market has been subjected to international market forces since then.

Figure 4

PRAIRIE REGION REALIZED PRICES OF REFINERS

Comparison by type of Sale

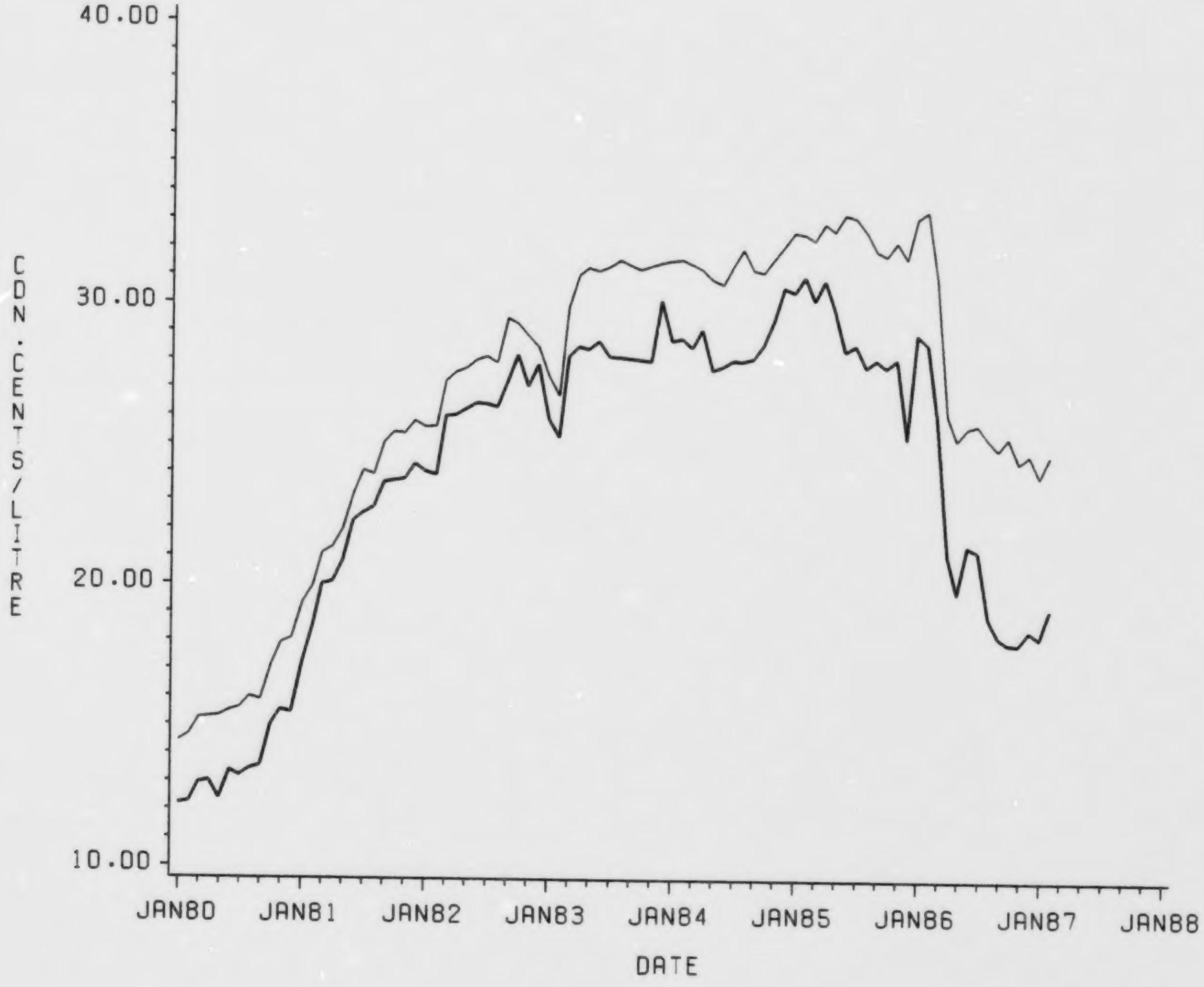
Monthly Average Prices in Canadian Cents per Litre

-LEGEND-

LINE1 is thinnest solid, LINE5 is thinnest broken

LINE1(Av. price to all buyers, incl. branded dealers, farmers, etc).

LINE2(Price to Resellers)



-REMARKS-

The data show that refiners' prices to resellers
are gradually becoming increasingly favourable for the resellers
in comparison to all other prices to other categories of buyers
(branded dealers, farmers, industrial users, etc.)
Resellers' prices were lower than total average price by 1.77 c/l
in 1980-82, by 2.99 c/l in 1983-85 and by 5.52 c/l in 1986-87. Or,
they were 91%, 90% and 78% of total price in the above periods.

Figure 5

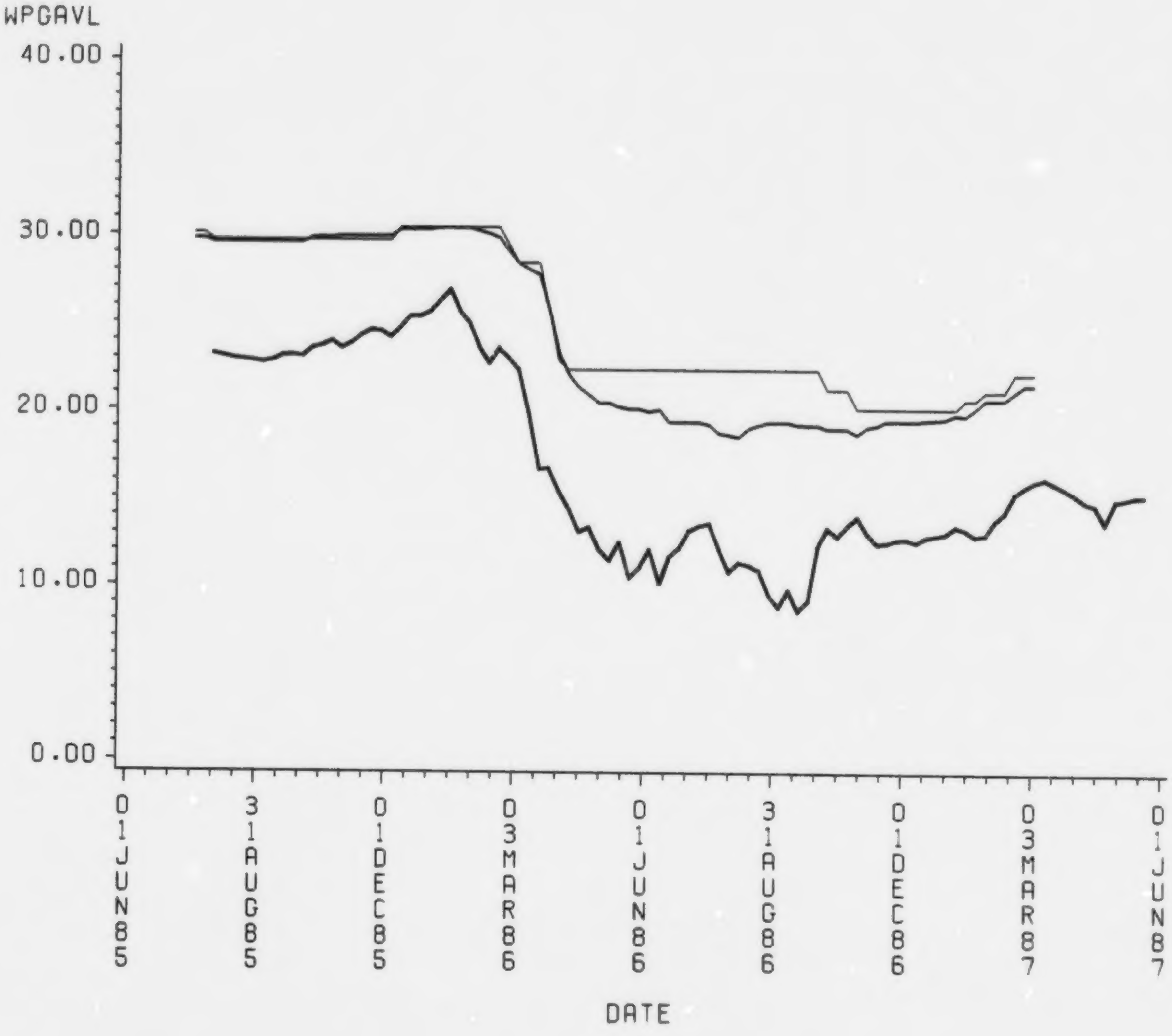
CDN REFINERS RACK PRICES

Canadian Regular Leaded Rack compared to Spot Crude Aver.

Prices are averages – in Canadian cents per litre

-LEGEND-

THIN LINE(Avg. Winnipeg Rack Prices)
MEDIUM LINE(Avg. Other Canadian Rack Prices)
THICK LINE(Spot Crude Aver., lagged 8 weeks)



-REMARKS-

Winnipeg Racks seem to move together with those of other cities until March 1986, then remain static, falling again in October 1986, when all the others are constant or rising. The static behavior of Winnipeg Racks between March and October 1986, and the October fall while other prices rose, is not explainable by market conditions.

Figure 6

PRAIRIE VERSUS AVERAGE CANADIAN AVERAGE WHOLESALE PRICES

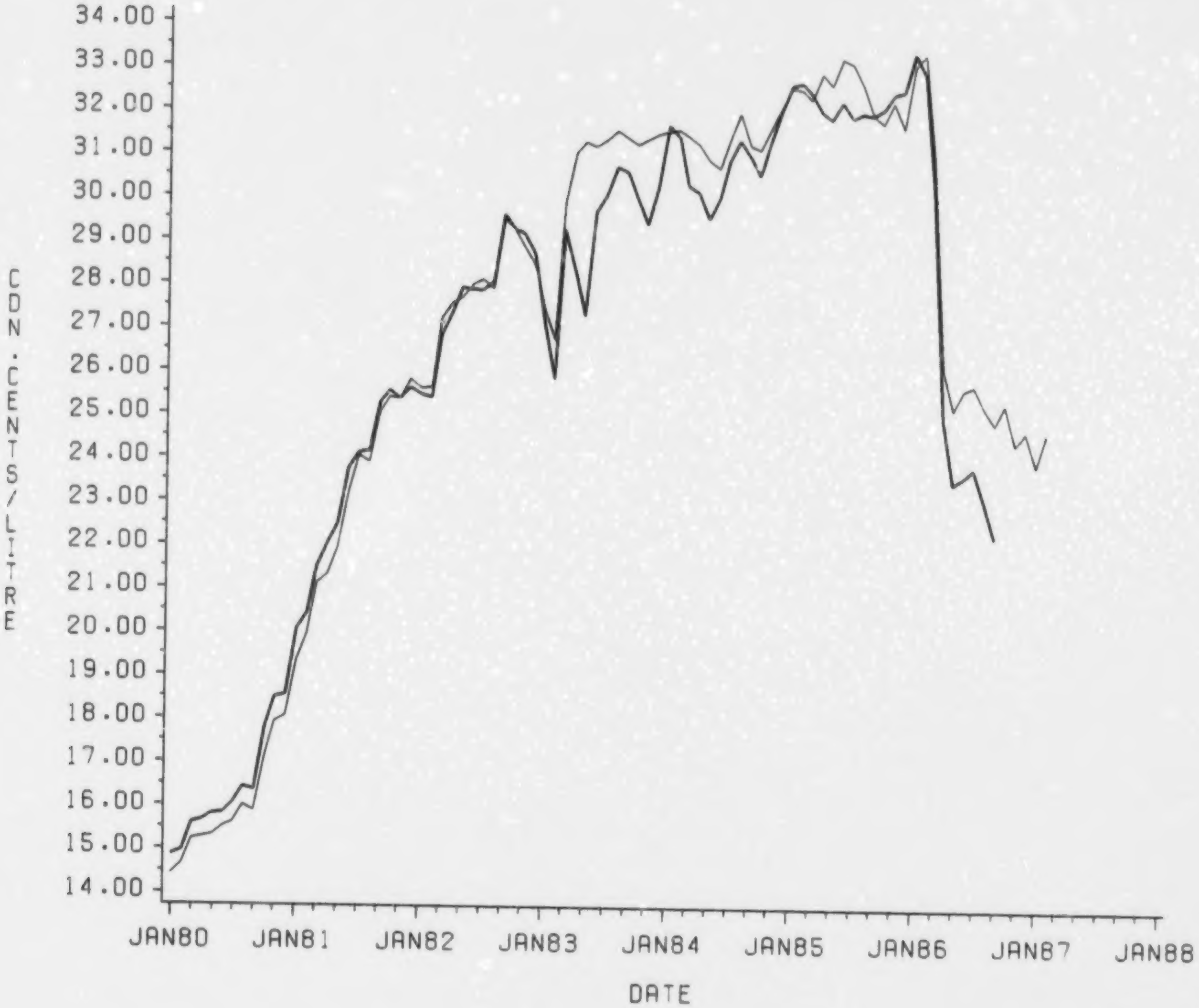
Canadian Regional Realized Prices for Regular Gas

Prices are monthly averages to all categories of buyers

-LEGEND-

LINE1 is thinnest solid, LINE5 is thinnest broken

LINE1(Prairies), LINE2(Cdn Average)



-REMARKS-

The data show that Prairie average realized prices of refiners to all buyers did not fall as much as those in other regions, during 1986.

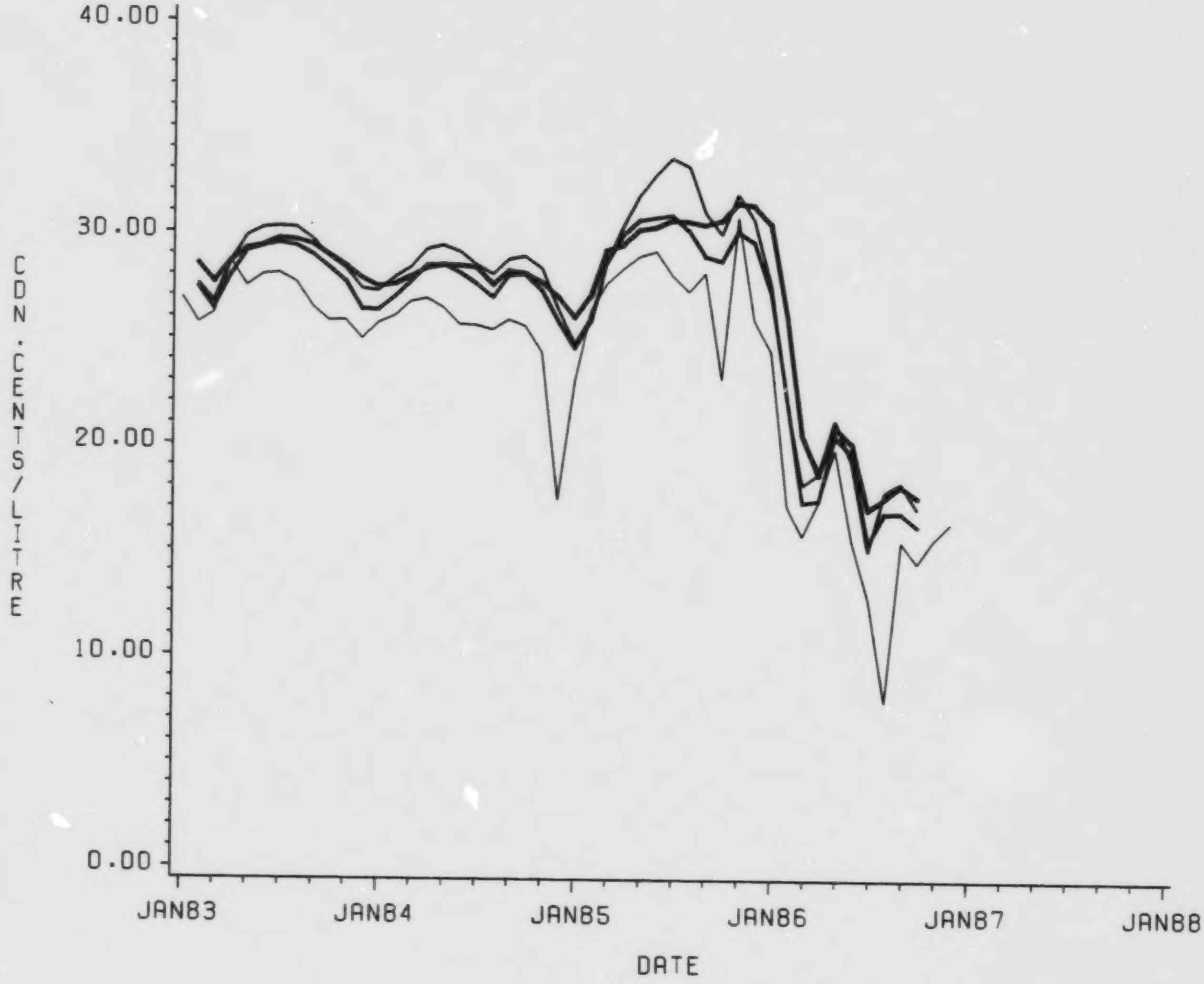
Figure 7

AMERICAN RACK PRICES

Prices are averages in Cdn.cents/Litre

-LEGEND-

LINE1 is thinnest solid, LINE4 is thickest solid
LINE1(New York Harbor Gasoline) LINE2(Minnesota Rack)
LINE3(Illinois Rack) LINE4(New York Rack)



-REMARKS-

It appears that American Refiners face effective competition from refined products in N.Y. Harbour and find it necessary to adjust their racks accordingly, with a differential probably reflecting transport and other costs, and with a small delay. Effective competition appears possible because of large volumes and transport and storage facilities available to participants

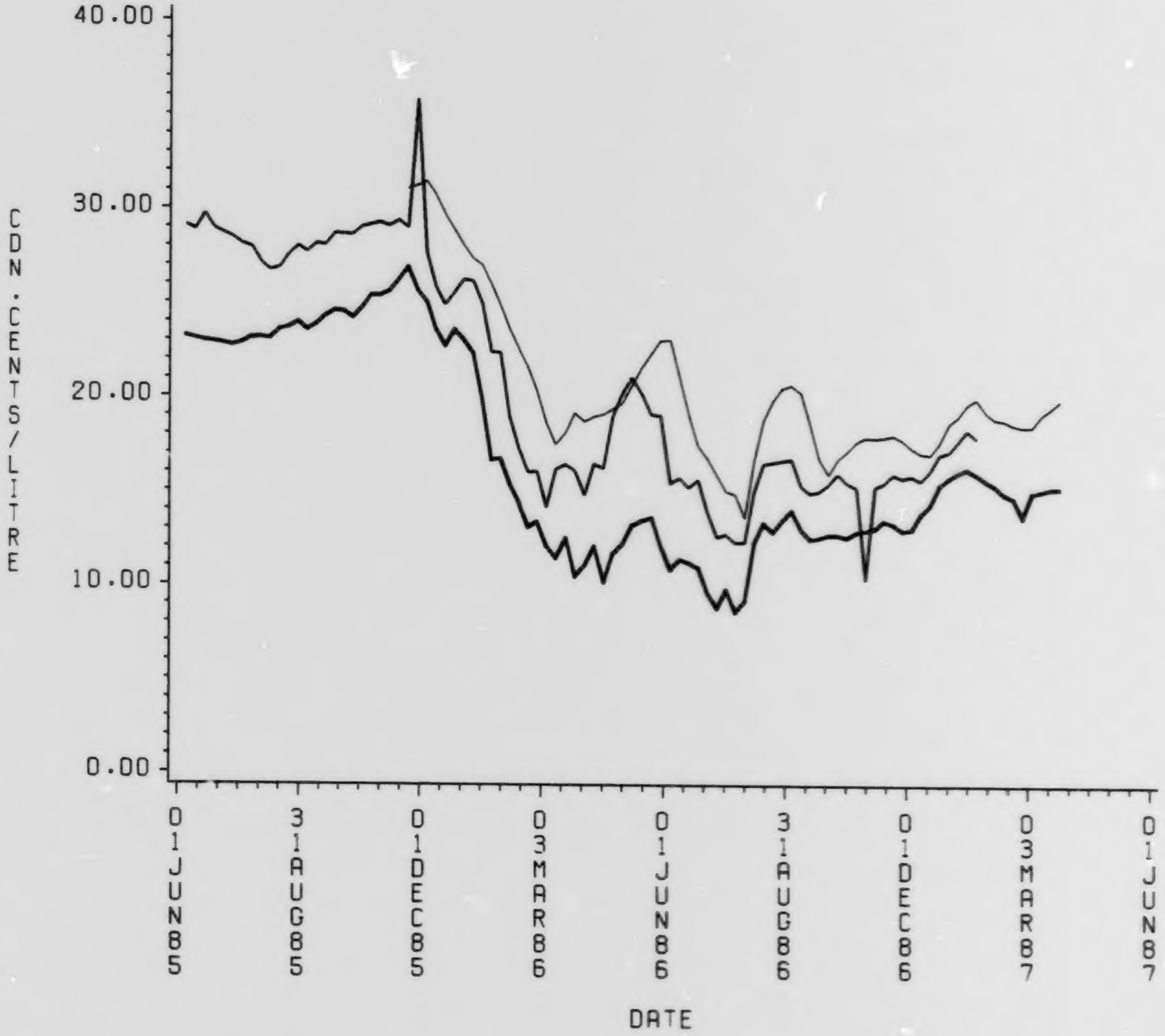
Figure 8

NEW YORK HARBOR WHOLESALE, SPOT CRUDE AV. AND GRAND FORKS RACKS

Weekly – in Cdn. cents per litre

-LEGEND-

THIN LINE(Grand Forks Rack Average)
MEDIUM LINE(N.Y. Harbour Wholesale Gasoline)
THICK LINE(Spot Crude price average)



-REMARKS-

The data in this Figure show (a) the notable interdependence
of crude and oil product markets in the U.S.A.
(b) the dependence of refiners' racks (in this case Grand Forks)
on these two markets
and (c) Local Market Conditions appear to have little influence
where competitive market forces seem to prevail

Figure 9

WPG WHOLESALE PRICES COMPARED TO GRAND FORKS AND N.Y.

For Regular Leaded Gasoline in Cdn.cents per litre

-LEGEND-

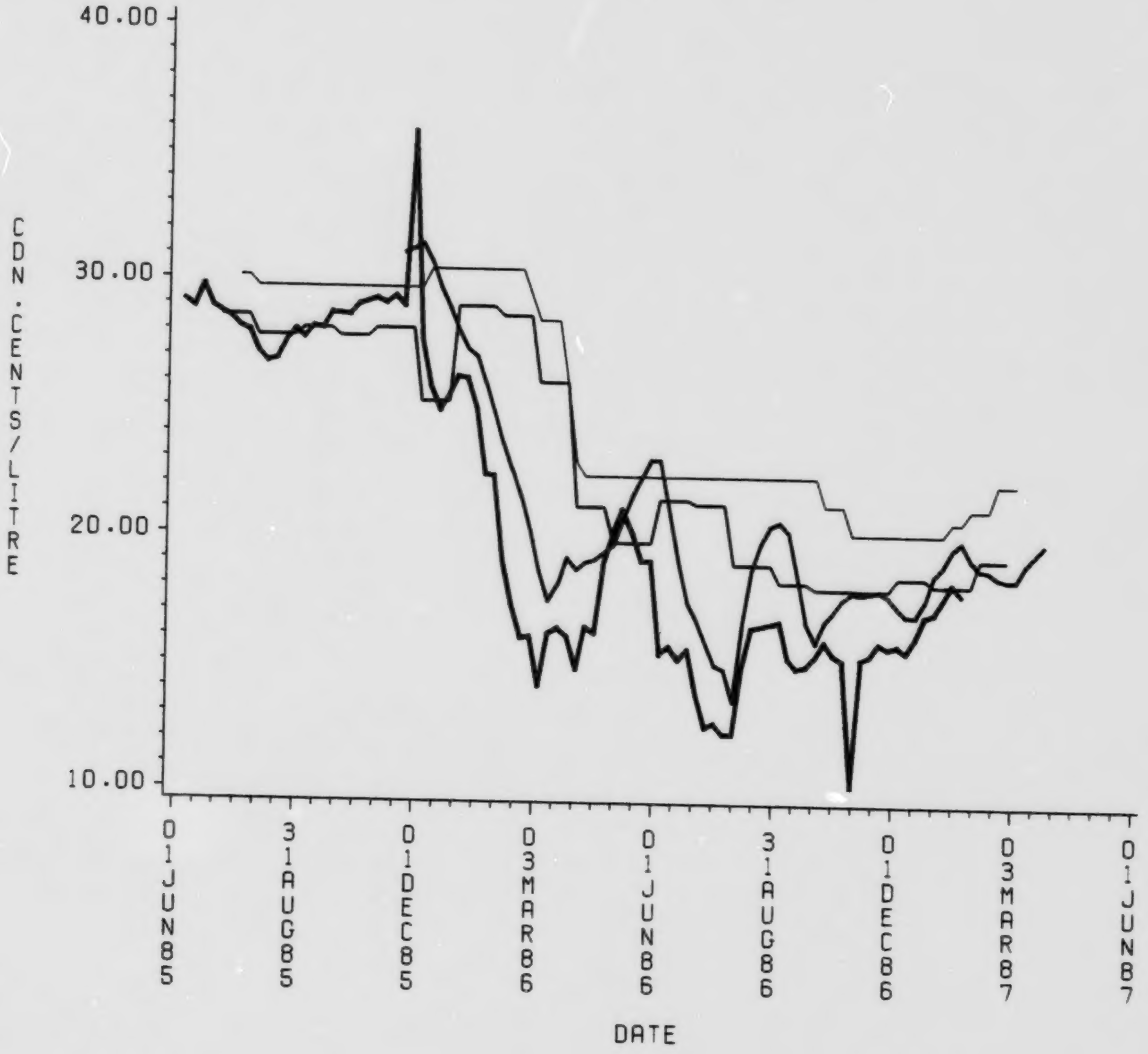
LINE1 is thinnest solid and LINE5 is thinnest brkn

LINE1(Wpg Rack)

LINE2(Refiners Sales Price to resellers, Prairies)

LINE3(Grand Forks Rack Price)

LINE4(N.Y. Harbour Gasoline)



-REMARKS-

(a) Winnipeg racks (thin line) seem static and high;
(b) the Prairie realized price to resellers (thicker line) seems to converge to the Grand Forks rack, particularly after September 1986.
(c) Grand Forks racks seem mainly driven by New York gasoline prices (with a small lag and price differential)

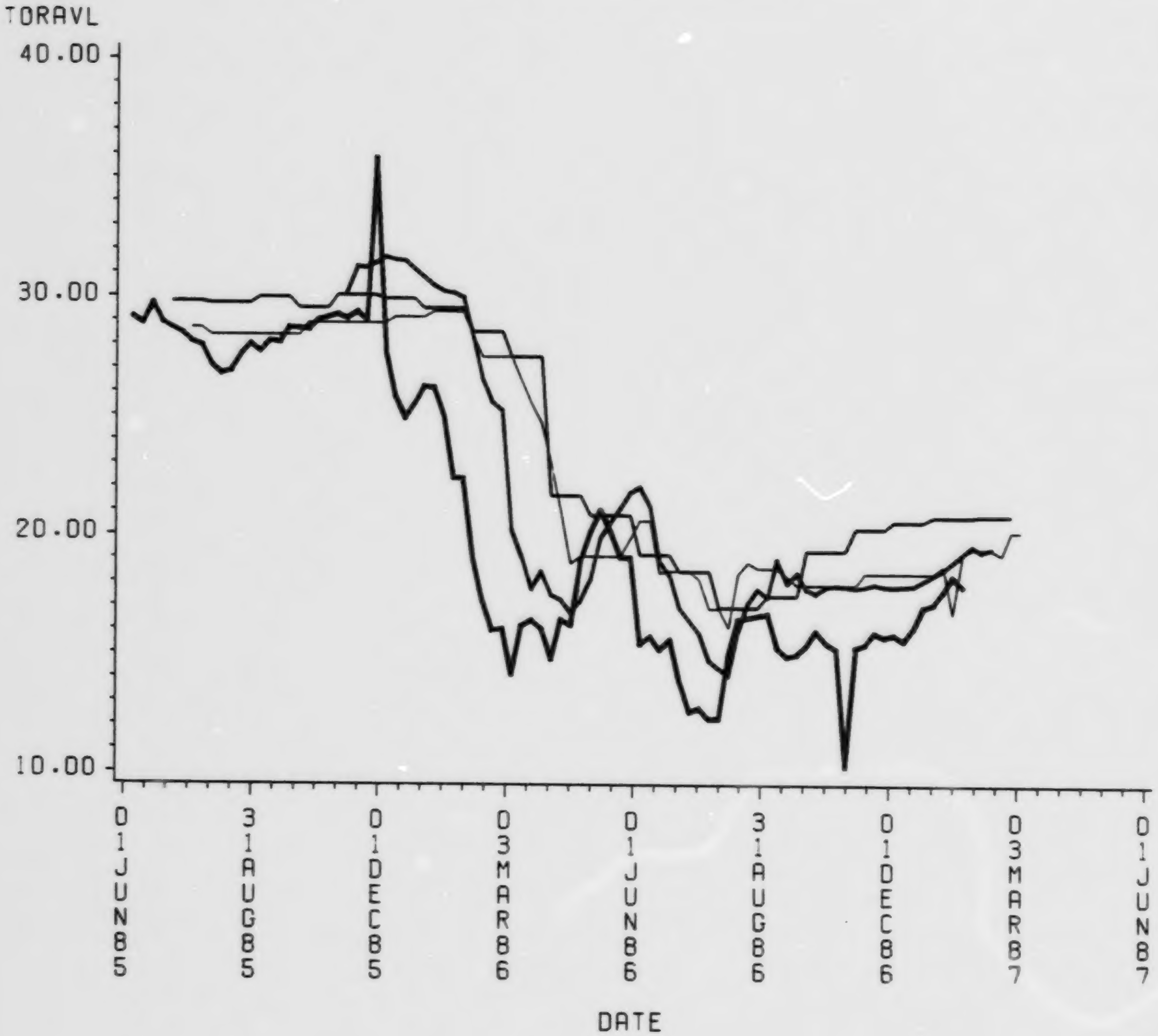
Figure 10

TORONTO WHOLESALE PRICES COMPARED TO BUFFALO AND N.Y

For Regular Leaded Gasoline in Cdn.cents per litre

-LEGEND-

LINE1 is thinnest solid and LINE5 is thinnest brkn
LINE1(Toronto Rack)
LINE2(Refiners Sales Price to resellers, Ontario)
LINE3(Buffalo Rack Price)
LINE4(N.Y. Wholesale Gasoline)



-REMARKS-

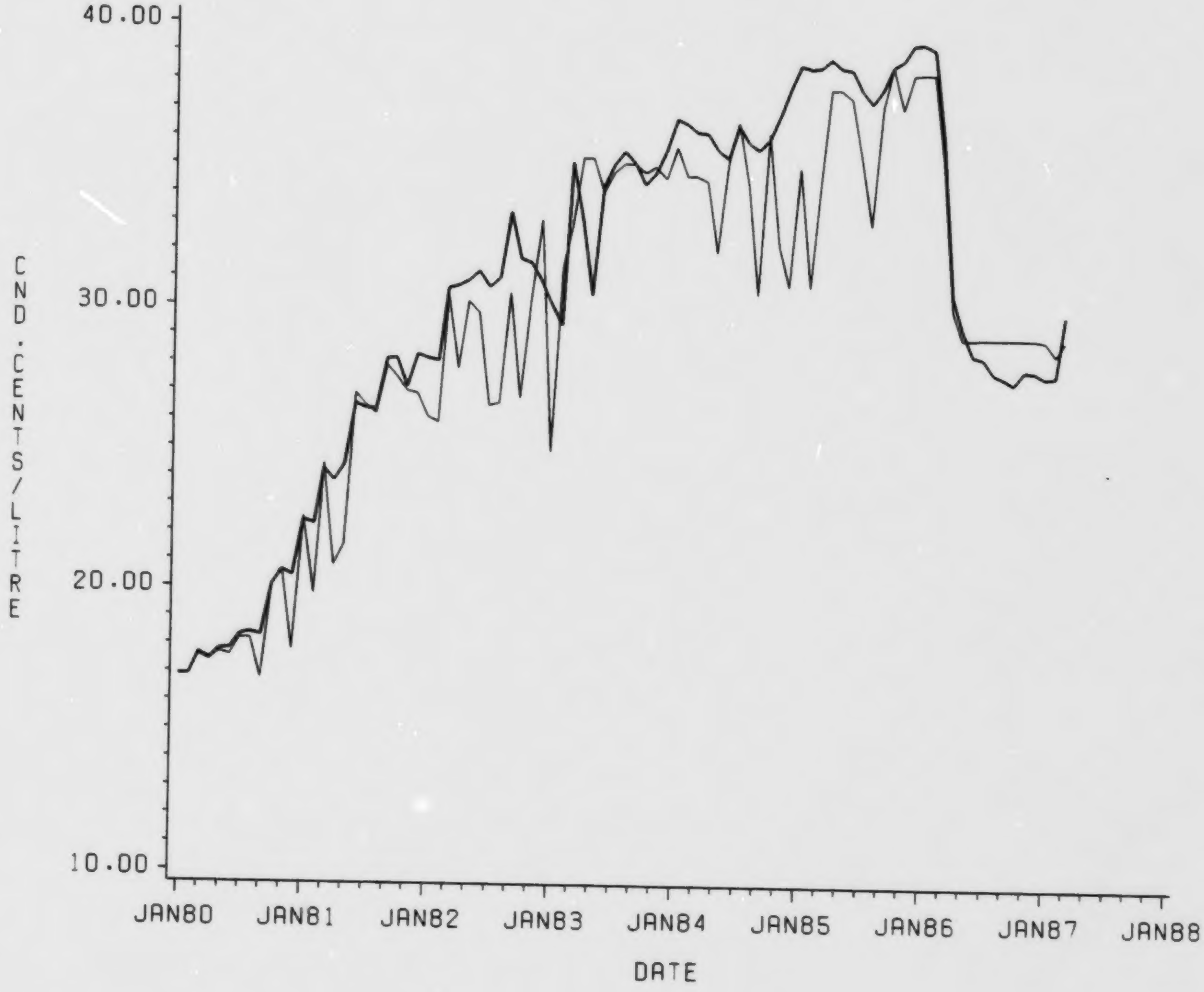
The Toronto wholesale market was subject to import competition, and refiners responded by adjusting their rack prices (thinnest line) to the competitive racks in New York State (Buffalo racks) which, in turn, are interdependent with wholesale product prices in New York City. The FIFO method followed by Canadian refiners appears to have had little influence in their pricing in Toronto.

Figure 11

RETAIL PRICES: WINNIPEG & CANADIAN AVERAGE

Regular Leaded Self Serve Gasoline Prices (Net of Taxes)
From 1980 to 1987 in Canadian Cents per Litre

-LEGEND-
LINE1 is thinnest solid, LINE4 is thickest solid
LINE1(WPG.) LINE2(Canada Average)



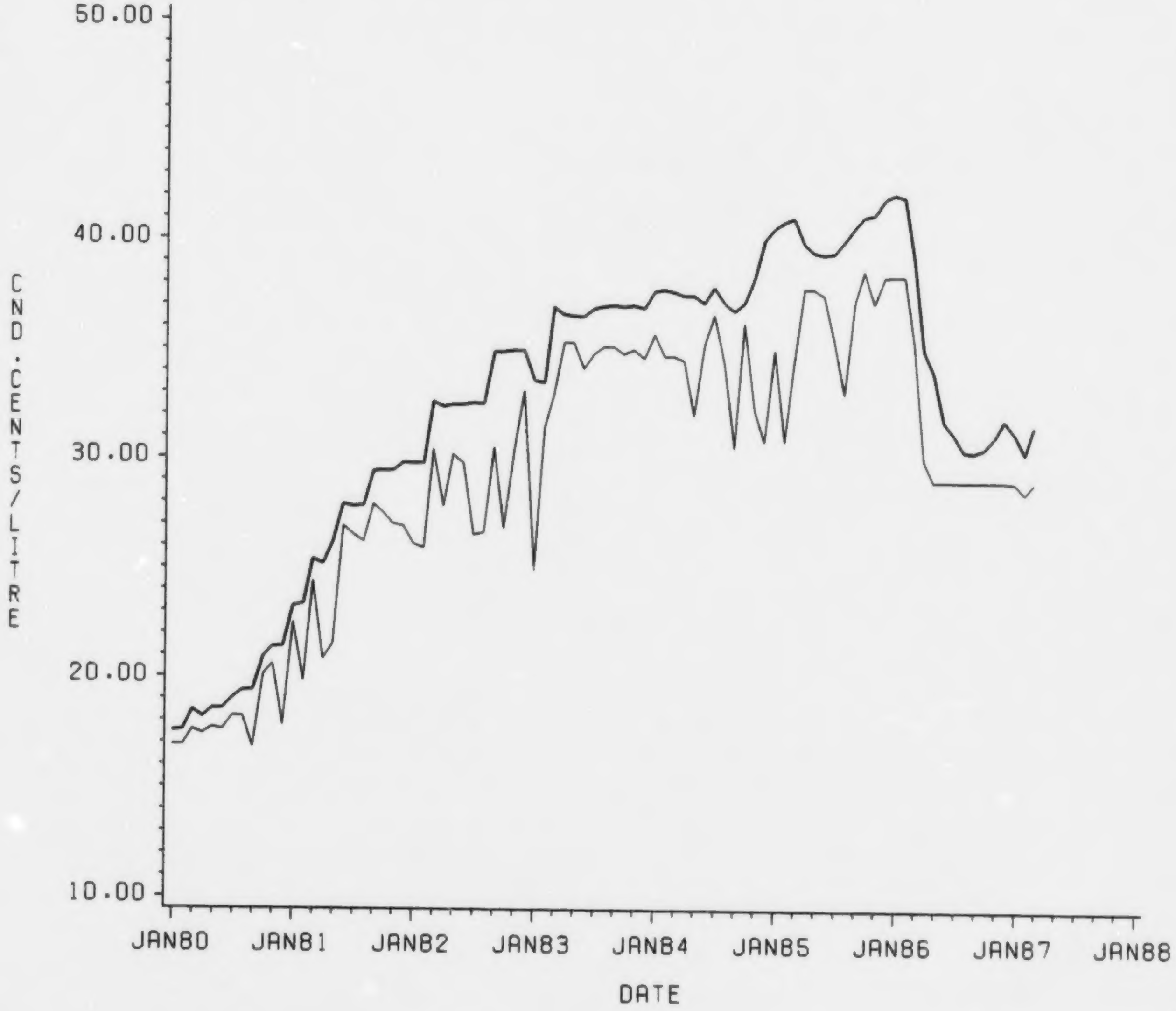
-REMARKS: The Figure illustrates three points;
(a) Wpg prices were lower than Cdn average in 1980-85 (by 1.33 c/l)
but the city's position was reversed after Jan 86 (higher by .40 c/l)
(b) The city's relative position had been restored by March 1987
as other prices rose but Wpg stayed uncharacteristically constant;
(c) Whenever there was a price-war in Wpg the data shows
a substantial dip. Since there was no dip in the second
half of 1985, the claims of oil companies that prices
in that period reflected price-war levels are unsupported.

Figure 12

PRICE DIFFERENTIALS: WINNIPEG & ATLANTIC CANADA

Regular Leaded Self Serve Gasoline Prices (Net of Taxes)
From 1980 to 1987 in Canadian Cents per Litre

-LEGEND-
LINE1 is thinnest solid, LINE4 is thickest solid
LINE1(WPG.) LINE2(Atlantic Canada)



-REMARKS-

The Atlantic Canada average includes the cities of St. Johns, Saint John, Charlottetown, and Halifax.

Figure 13

PRICE DIFFERENTIALS: WINNIPEG & CENTRAL CANADA

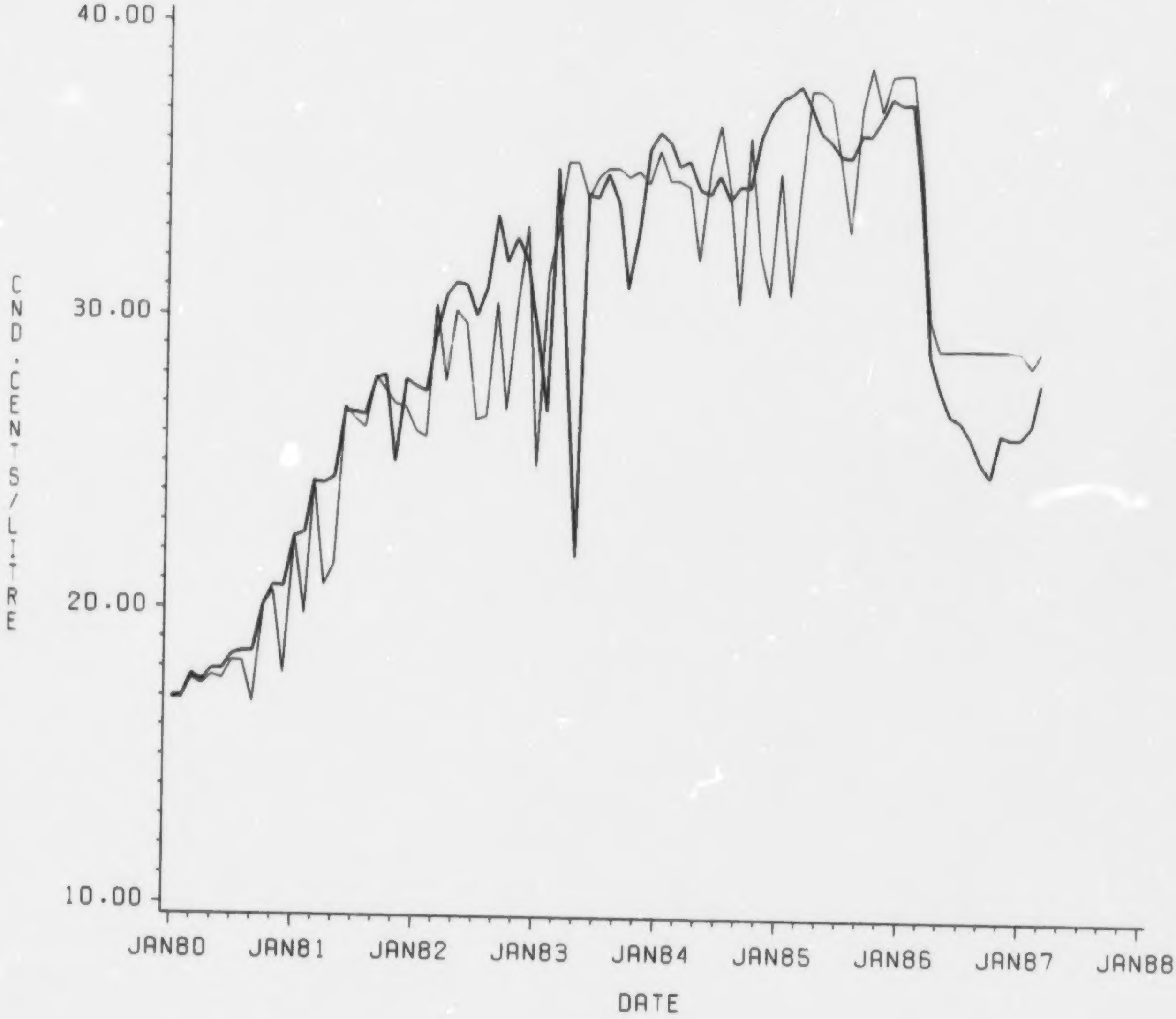
Regular Leaded Self Serve Gasoline Prices (Net of Taxes)

From 1980 to 1987 in Canadian Cents per Litre

-LEGEND-

LINE1 is thinnest solid, LINE4 is thickest solid

LINE1(WPG.) LINE2(Central Canada)



-REMARKS-

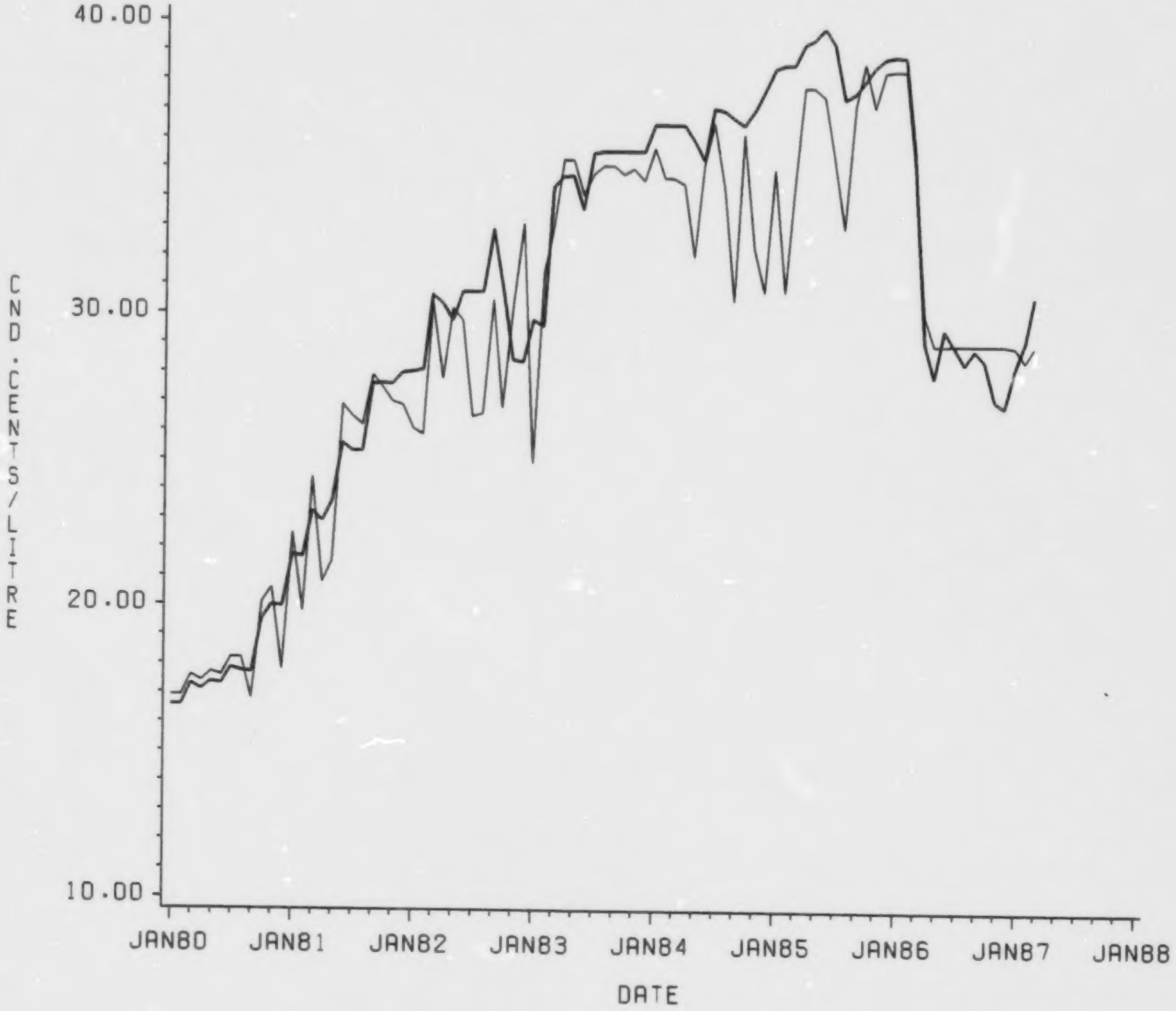
The Central Canada average includes the cities of Quebec City, Montreal, Ottawa, Toronto and Thunder Bay

Figure 14

PRICE DIFFERENTIALS: WINNIPEG & PRAIRIES

Regular Leaded Self Serve Gasoline Prices (Net of Taxes)

From 1980 to 1987 in Canadian Cents per Litre



-LEGEND-

LINE1 is thinnest solid, LINE4 is thickest solid

LINE1(WPG.) LINE2(Prairies)

-REMARKS-

The Prairie average includes the cities of Edmonton, Calgary, Regina and Saskatoon.

Figure 15

PRICE DIFFERENTIALS: WINNIPEG & B.C.

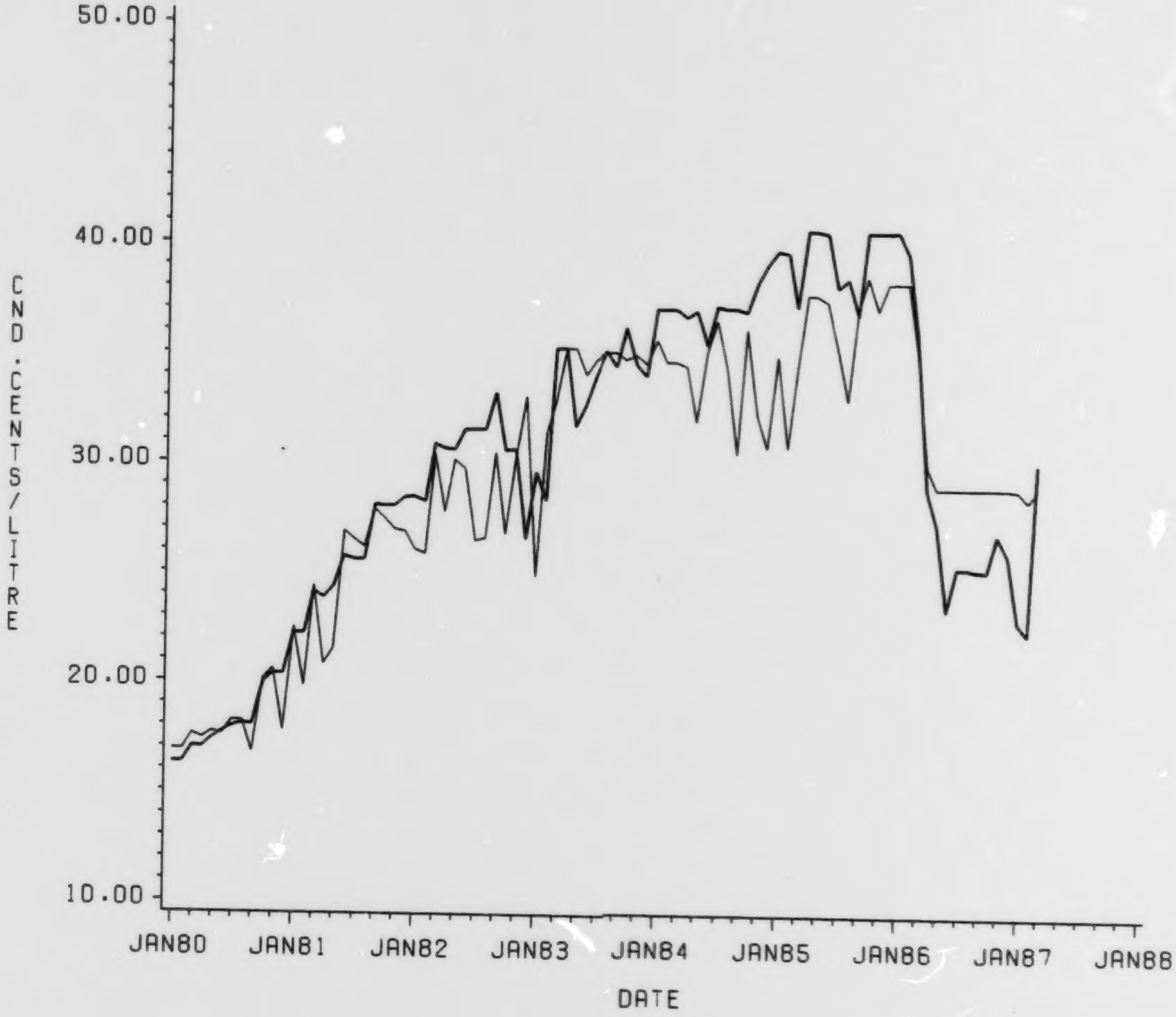
Regular Leaded Self Serve Gasoline Prices (Net of Taxes)

From 1980 to 1987 in Canadian Cents per Litre

-LEGEND-

LINE1 is thinnest solid, LINE4 is thickest solid

LINE1(WPG.) LINE2(B.C.)



-REMARKS-

The B.C. average includes the cities of Vancouver and Victoria.
The Vancouver Urban Transit Tax, of 0.66 cents/litre prior to 1983
and 0.95 cents/litre since then, is included in the calculations

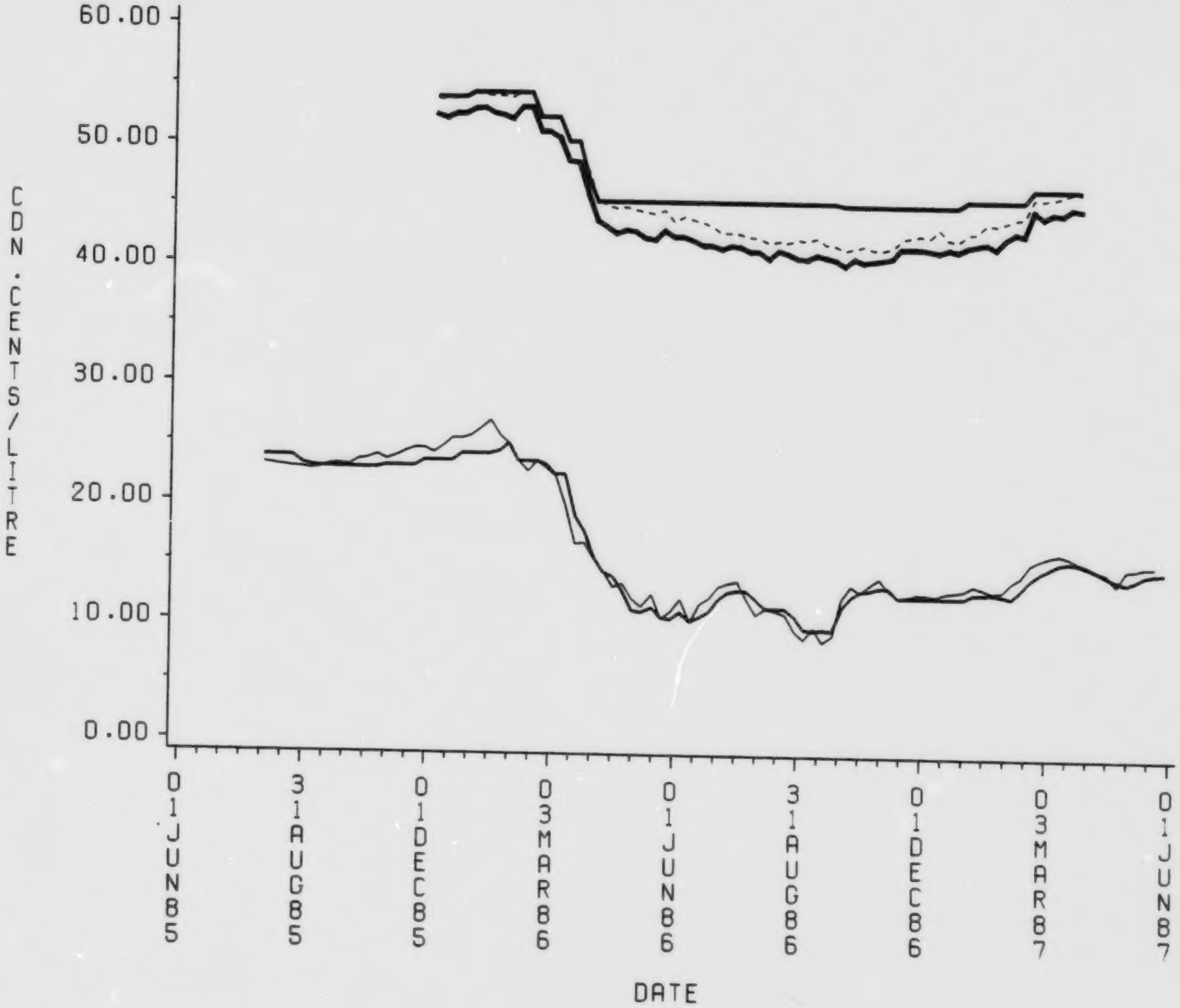
Figure 16

Crude Oil and Retail Gasoline Prices: Winnipeg

Prices are Averages in Canadian Cents per litre

-LEGEND-

LINE1 is thinnest solid, LINE5 is thinnest broken
LINE1(Crude Spot) LINE2(Crude Postings: Edmonton)
LINE3(Wpg.Retail-Incl.Tax) LINE4(Cdn.Retail, weighted av.)
LINE5(Canadian retail, Unweighted av.)



REMARKS: Based on weekly data, the Figure shows that
while, on average, Canadian retail prices
appear to have followed crude prices to some degree,
Wpg retail prices did not follow as well.
Specifically,
Wpg retail prices, higher than Cdn av. by .08 (1.49) c/l
before March 86, rose to 1.90 (3.29) c/l higher since.
(bracketed figures are comparisons of Wpg price with wghted Cdn av.).

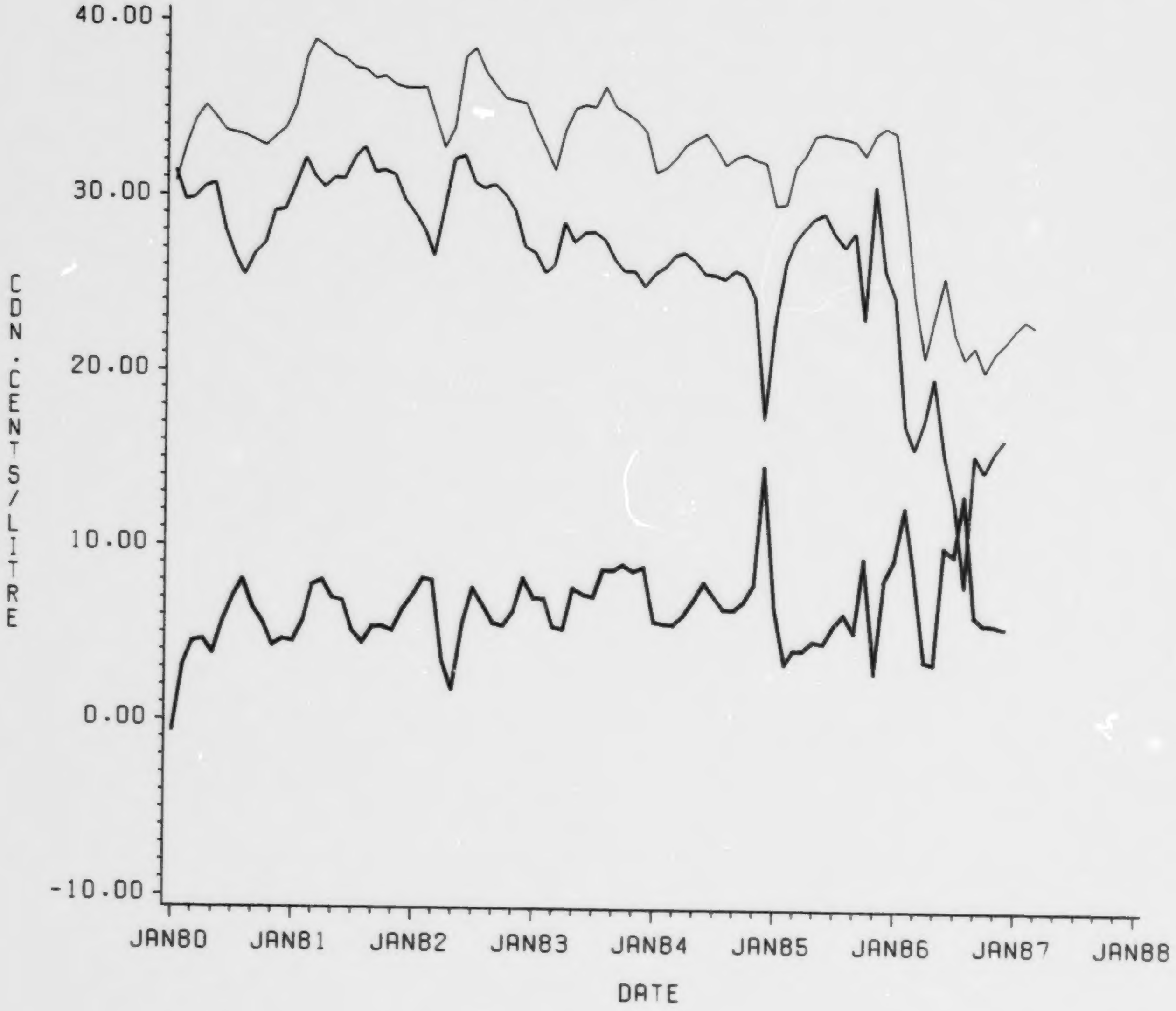
Figure 17

CHICAGO RETAIL VERSUS NEW YORK HARBOR WHOLESALE

Monthly with differential – in Cdn.cents per litre

-LEGEND-

THIN LINE(Chicago Regular Leaded Retail ex tx)
MEDIUM LINE(New York Harbor Wholesale)
THICK LINE(Price Differential)



-REMARKS-

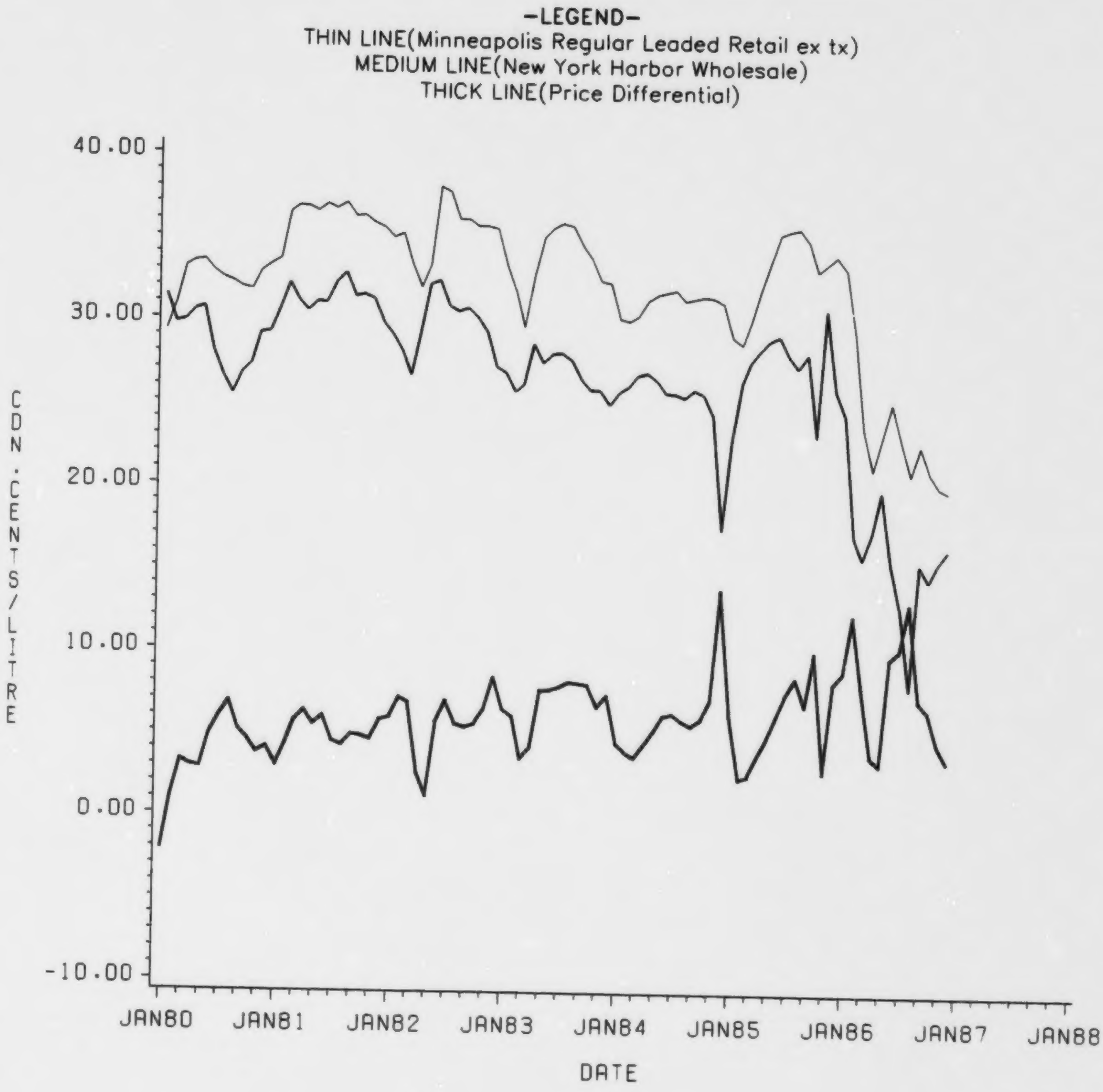
The price (net of tax) at the pump in Chicago, Illinois,
seems quite sensitive (with a small lag, and
an average 6.43 c/l premium over spot wholesale F.O.B. New York)
to wholesale product prices driven by international market forces.

See also Figure 31 for the interdependence of wholesale markets
for oil products, and Figure 27 for
a more complete picture of interrelationships.

Figure 18

MINNEAPOLIS RETAIL VERSUS NEW YORK HARBOR WHOLESALE

Monthly with differential – in Cdn.cents per litre



-REMARKS-

The price (net of tax) at the pump in Minneapolis, Minnesota, seems quite sensitive (with a small lag, and an average 5.74 c/l premium over spot wholesale F.O.B. New York) to wholesale product prices driven by international market forces.

See also Figure 31 for the interdependence of wholesale markets for oil products, and Figure 28 for a more complete picture of interrelationships.

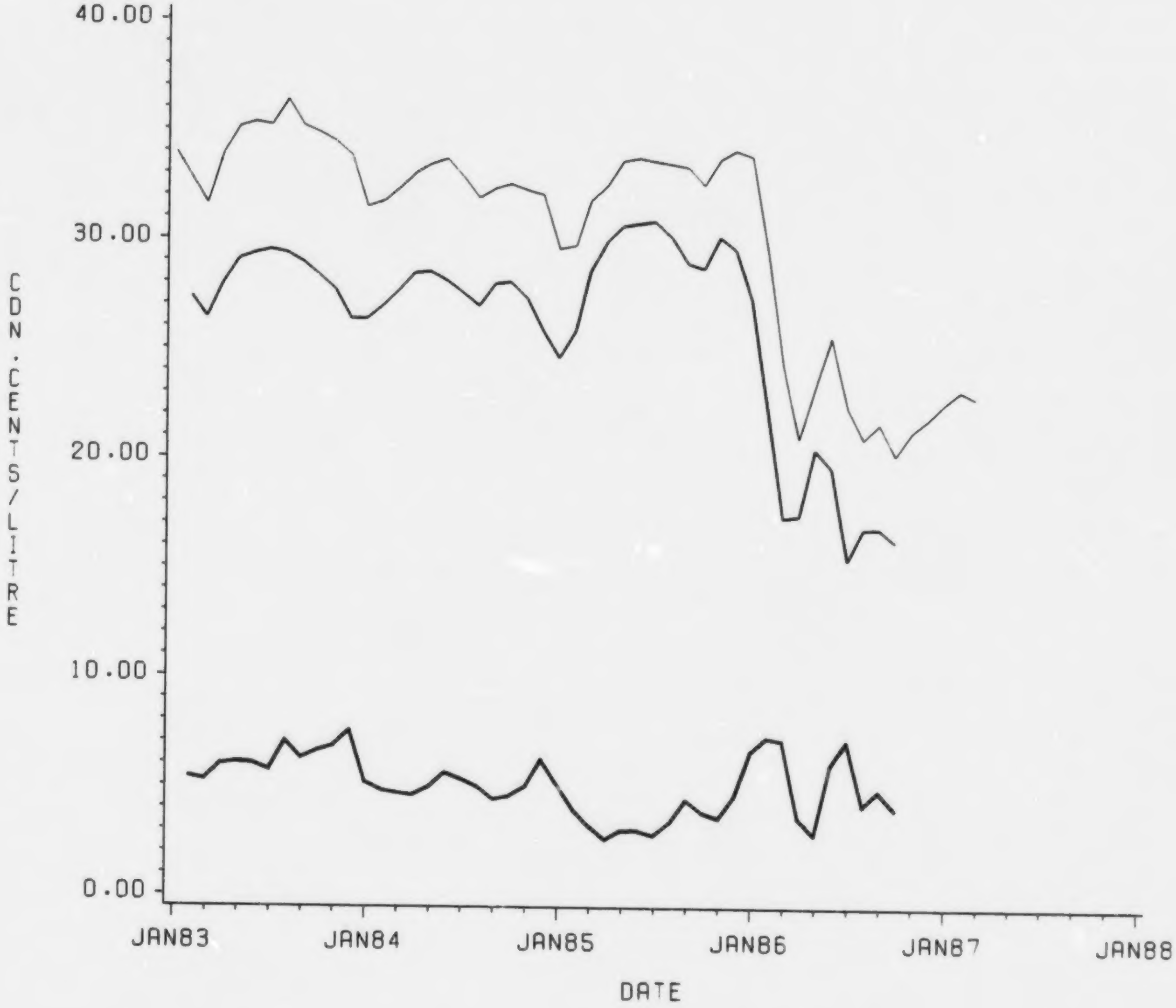
Figure 19

CHICAGO RESELLER MARGINS

Monthly with differential – in Cdn.cents per litre

–LEGEND–

THIN LINE(Chicago Regular Leaded Retail)
MEDIUM LINE(Illinois Regular Leaded Rack)
THICK LINE(Reseller Margin)



–REMARKS–

The price (net of tax) in Chicago, Illinois, appears quite sensitive to wholesale racks in the state.

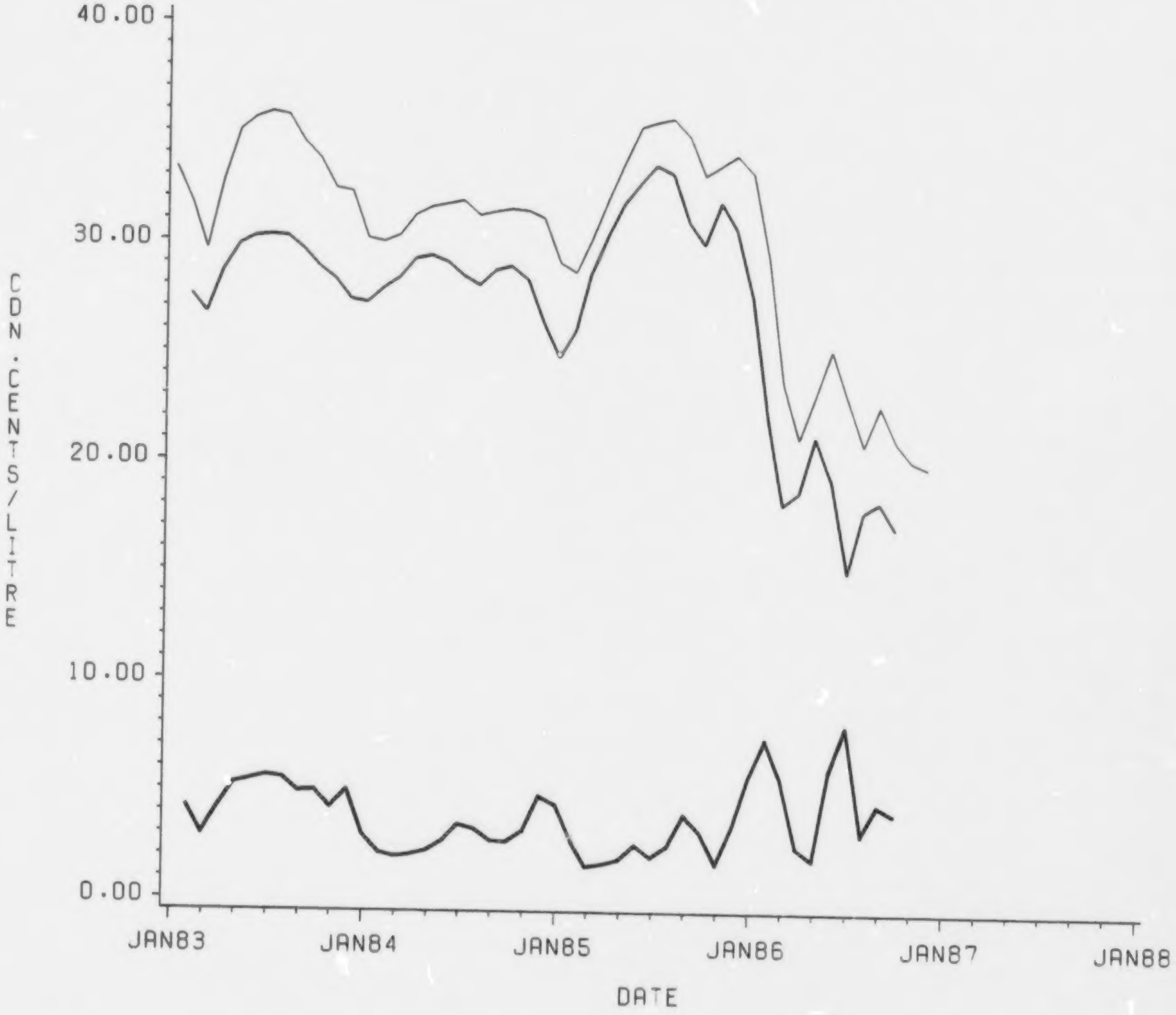
See also Figure 31 for the interdependence of wholesale markets for oil products, and Figure 27 for a more complete picture of interrelationships.

Figure 20

MINNEAPOLIS RESELLER MARGINS

Monthly with differential – in Cdn.cents per litre

–LEGEND–
THIN LINE(Minneapolis Regular Leaded Retail)
MEDIUM LINE(Minnesota Regular Leaded Rack)
THICK LINE(Reseller Margin)



–REMARKS–
The price (net of tax) in Minneapolis,Minnesota, appears quite sensitive to wholesale racks in the state.

See also Figure 31 for the interdependence of wholesale markets for oil products, and Figure 28 for a more complete picture of interrelationships.

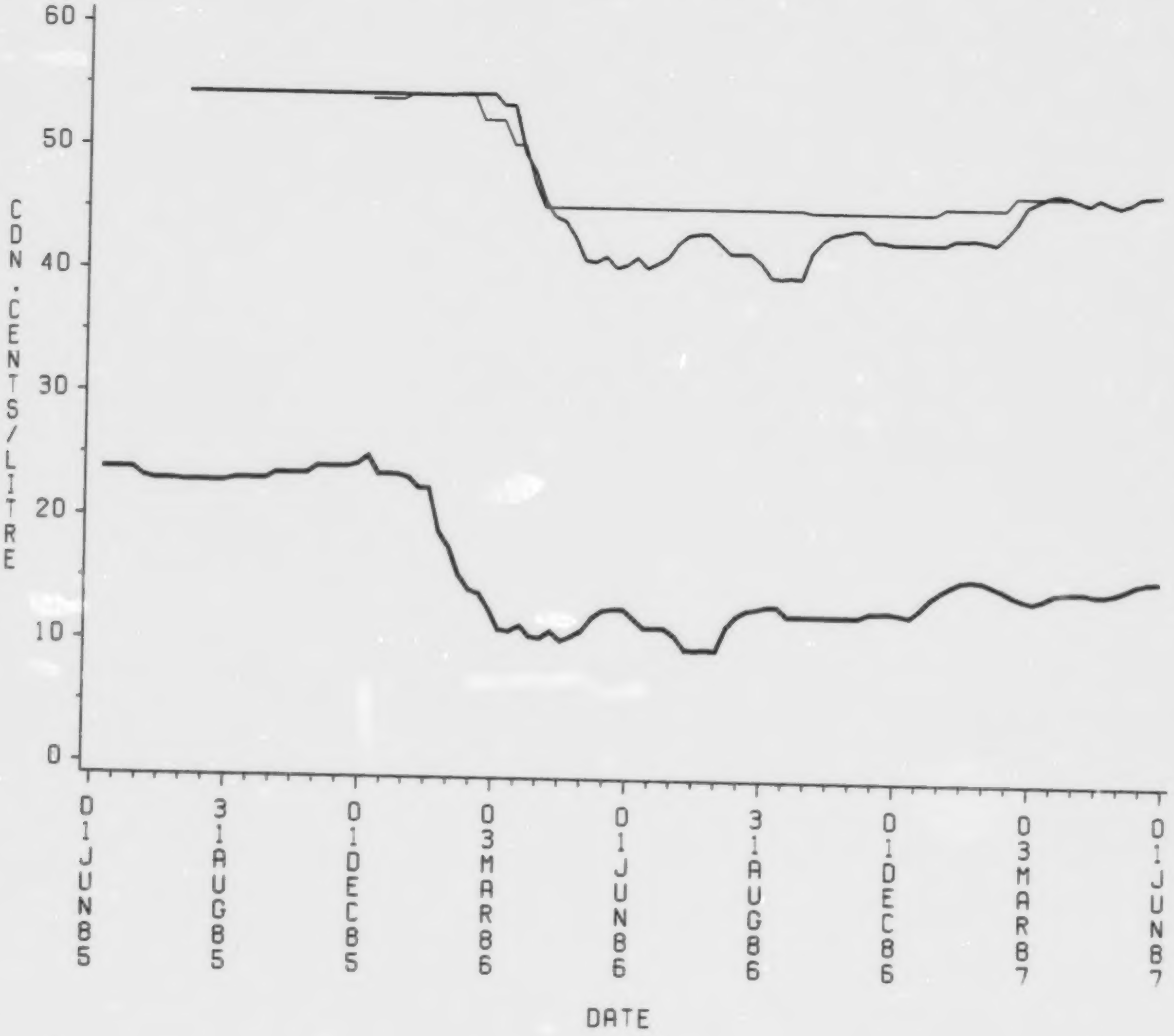
Figure 21

ACTUAL VERSUS COST–JUSTIFIED (PROPER) WPG GASOLINE PRICES

Prices in Canadian Cents/Litre – Gas is Regular Leaded Self Serve

The lag between crude costs and retail price has been set at 8 wks

–LEGEND–
THIN LINE(Winnipeg Actual Gas Price)
MEDIUM LINE(Winnipeg Proper Gas Price)
THICK LINE(Crude Oil Price)



–REMARKS–

The model takes the relationship between crude and retail prices in the second half of 1985 as given, and then traces changes in Edmonton crude to expected changes in retail, using an 8–week lag and taking into account tax changes in the period. It shows, like the simple price data, that the actual Wpg retail price should have fallen by more than it did (by 2.02 c/l av for 8–wk lag). The model also shows that regulation of retail prices would lead to a fluctuating regulated (proper) retail price.

Figure 22

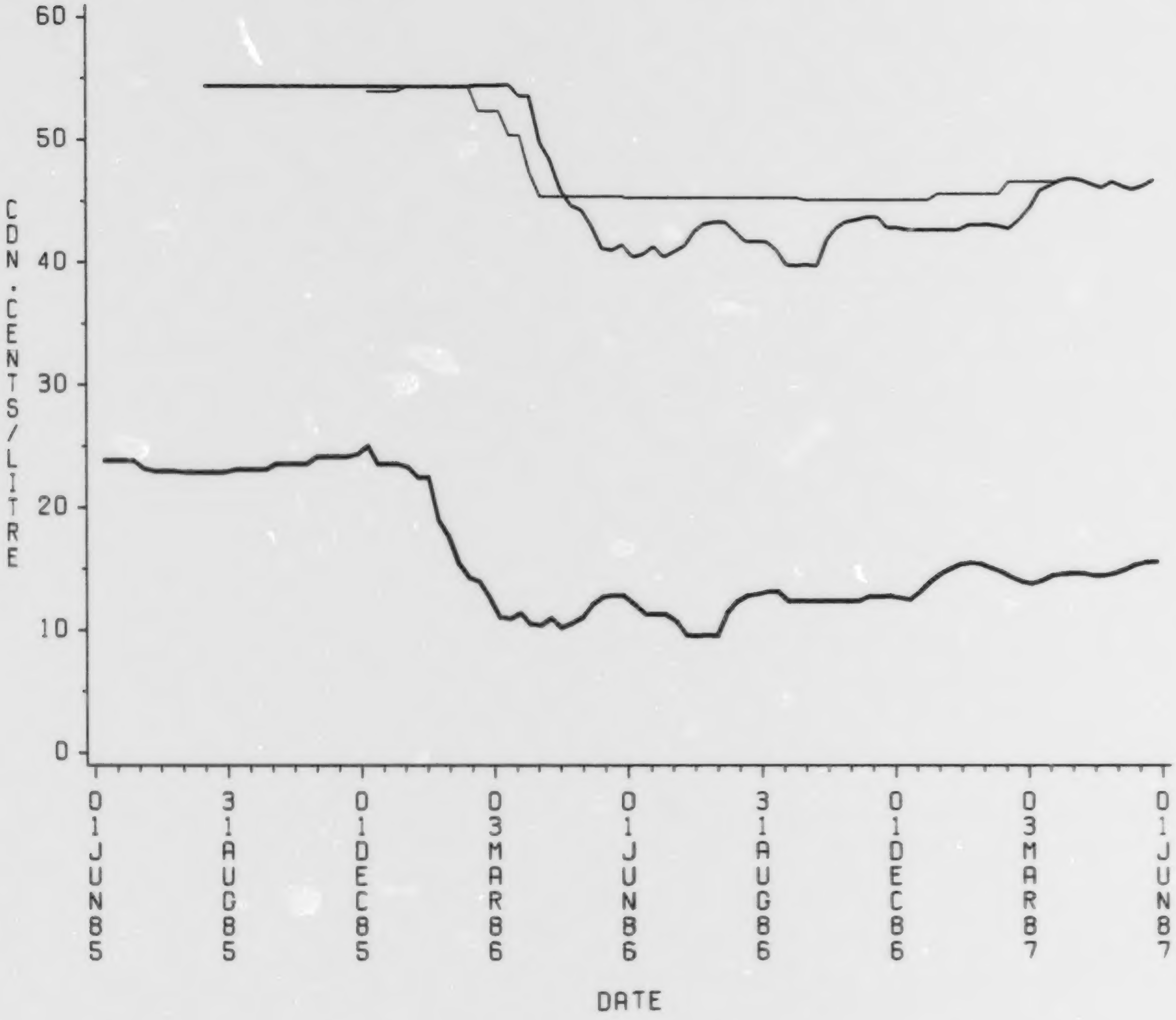
ACTUAL VERSUS COST–JUSTIFIED (PROPER) WPG GASOLINE PRICES

Prices in Canadian Cents/Litre – Gas is Regular Leaded Self Serve

The lag between crude costs and retail price has been set at 10 wks

–LEGEND–

THIN LINE(Winnipeg Actual Gas Price)
MEDIUM LINE(Winnipeg Proper Gas Price)
THICK LINE(Crude Oil Price)



–REMARKS–

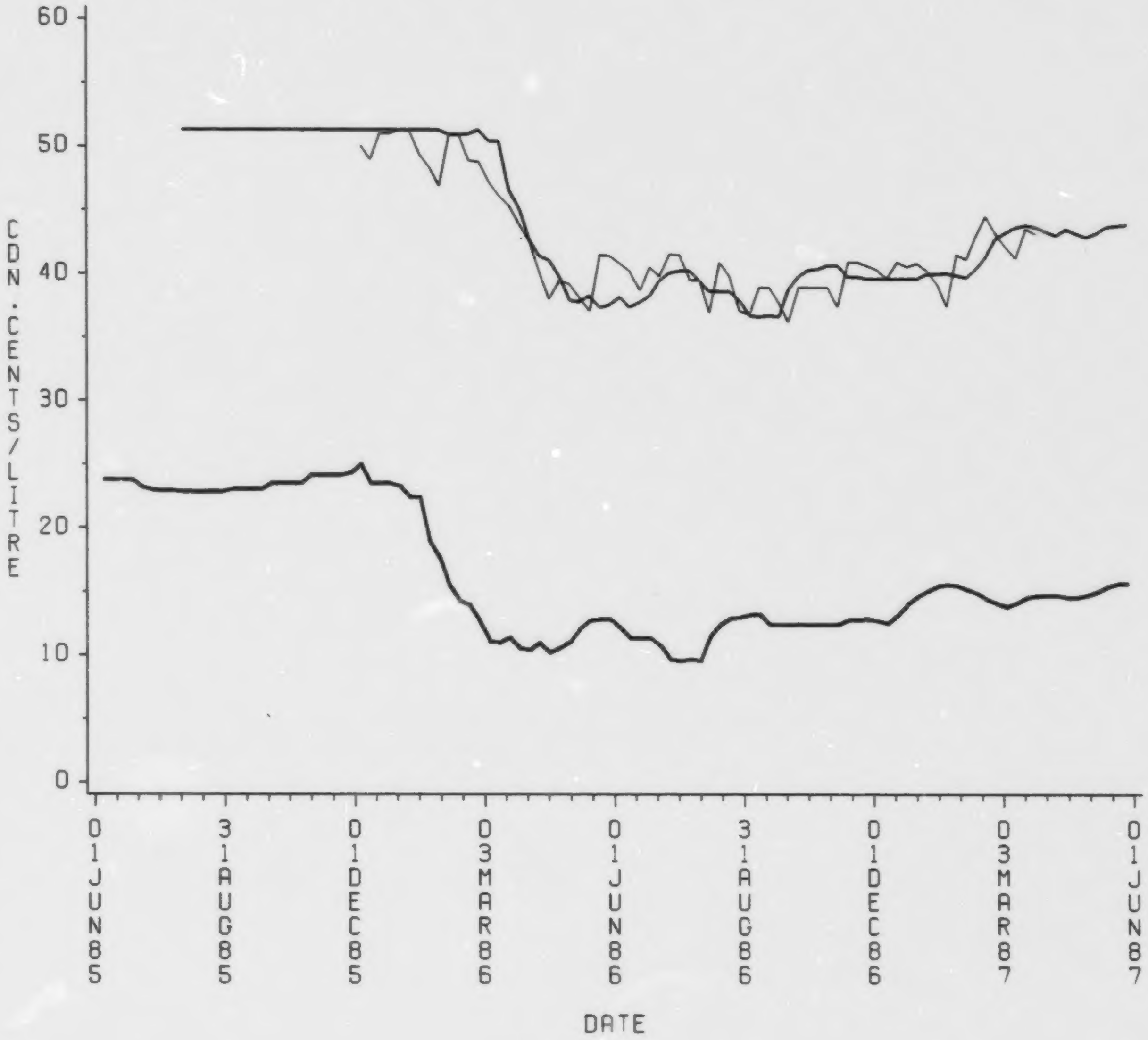
The model takes the relationship between crude and retail prices in the second half of 1985 as given, and then traces changes in Edmonton crude to expected changes in retail, using a 10–week lag and taking into account tax changes in the period. It shows, like the simple price data, that the actual Wpg retail price should have fallen more than it did (by 1.79 c/l av for 10–wk lag). The model also shows that regulation of retail prices would lead to a fluctuating regulated (proper) retail price.

Figure 23

ACTUAL VERSUS COST–JUSTIFIED (PROPER) GASOLINE PRICES, TORONTO

Prices in Canadian Cents/Litre – Gas is Regular Leaded Self Serve
Weekly: June 07,1985 to March 31,1987

–LEGEND–
THIN LINE(Toronto Actual Gas Price)
MEDIUM LINE(Toronto Proper Gas Price)
THICK LINE(Crude Oil Price)



–REMARKS–

In contrast with Winnipeg Prices, Toronto retail seems to have tracked crude prices rather faithfully as this Figure shows (eight–week lag). This is irrespective of the fact that FIFO had to be used in inventory evaluation, resulting in reported losses for some time. The average difference between actual and proper price was –0.06 c/l; i.e., actual price was equal to the proper price.

Figure 24

RESELLERS MARGIN POSSIBILITIES, WPG

For Regular Leaded Gasoline in Cdn.cents per litre

-LEGEND-

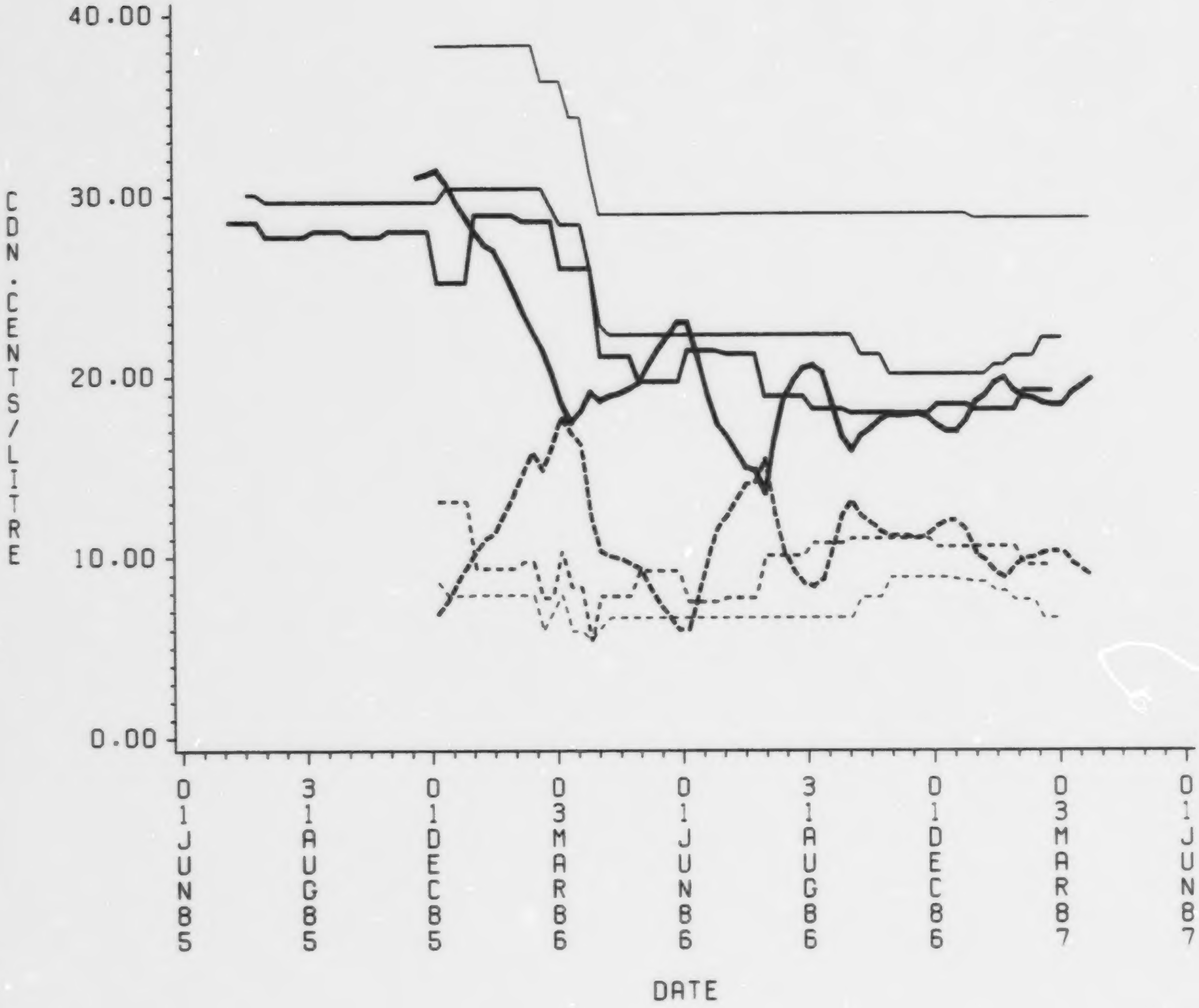
LINE1 is thinnest solid and LINE5 is thinnest brkn

LINE1(Wpg Retail ex tx) LINE2(Wpg Rack)

LINE3(Refiners Sales Price to resellers, Prairies)

LINE4(Grand Forks Rack Price)

LINES 5,6,7:Respective retail margins



-REMARKS-

(a) A Wpg-based reseller would have made an average of 7.3 c/l if buying off the Winnipeg rack, 9.73 c/l if buying by negotiation at average resellers' prices for the Prairies, and 10.94 c/l if buying from Grand Forks (F.O.B.).

(b) Prairie refiners' prices to resellers had more or less converged to the Grand Forks racks by September 1986.

(c) Prairie resellers' margins are higher than Toronto resellers' margins (See Figure 25).

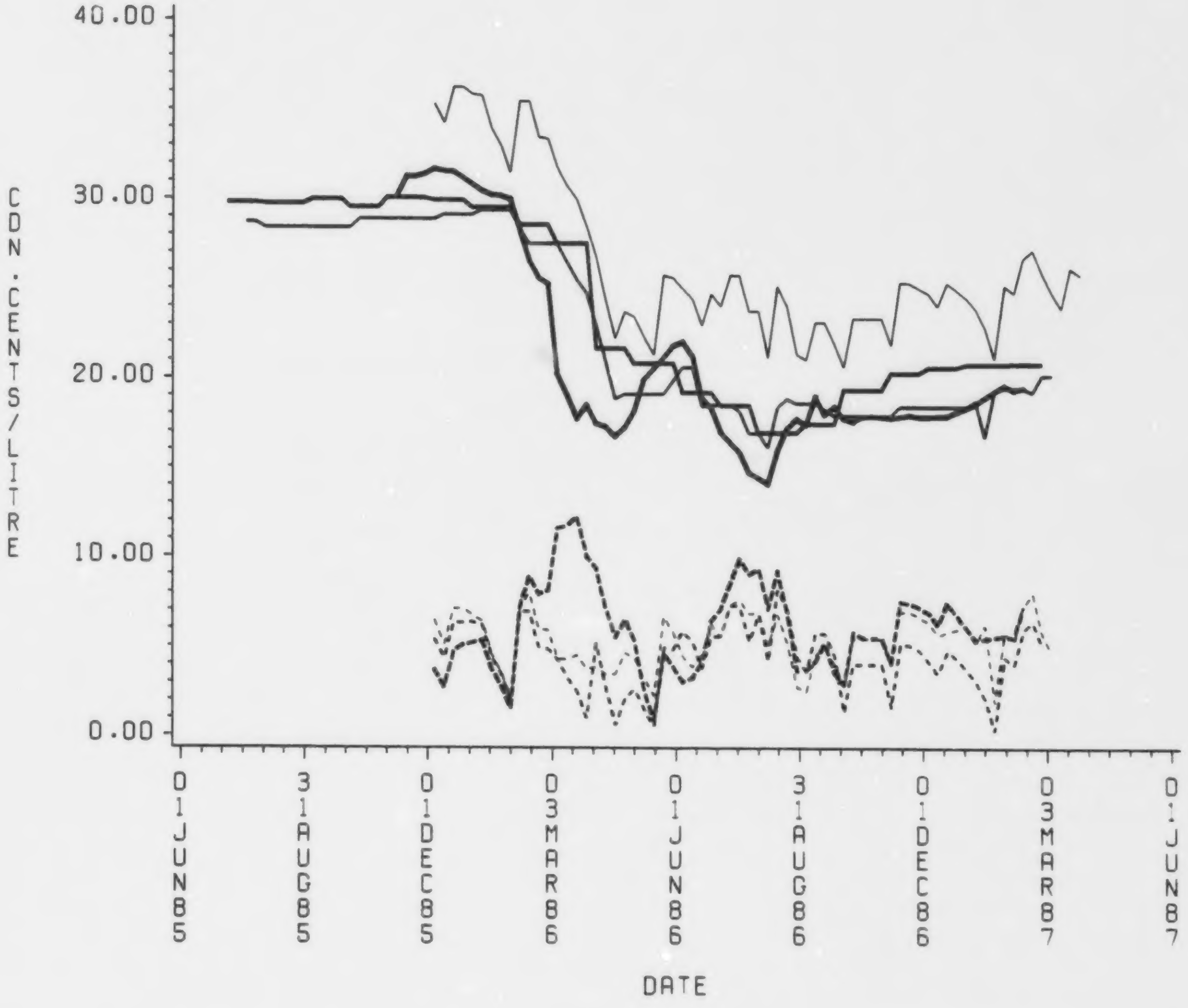
Figure 25

RESELLERS MARGIN POSSIBILITIES, TORONTO

For Regular Leaded Gasoline in Cdn.cents per litre

-LEGEND-

LINE1 is thinnest solid and LINE5 is thinnest brkn
LINE1(Toronto Retail ex tx) LINE2(Toronto Rack)
LINE3(Refiners Sales Price to resellers, Ontario)
LINE4(Buffalo Rack Price)
LINES 5,6,7:Respective retail margins



-REMARKS-

(a) A Toronto-based reseller would have made an average of 5.24 c/l if buying off the Toronto rack, 4.38 c/l if buying by negotiation at average resellers' prices for Ontario, and 6.01 c/l if buying from Buffalo (F.O.B.).

(b) Toronto racks, Ont realized prices and Buffalo racks generally track closer to each other in comparison to Wpg counterparts.

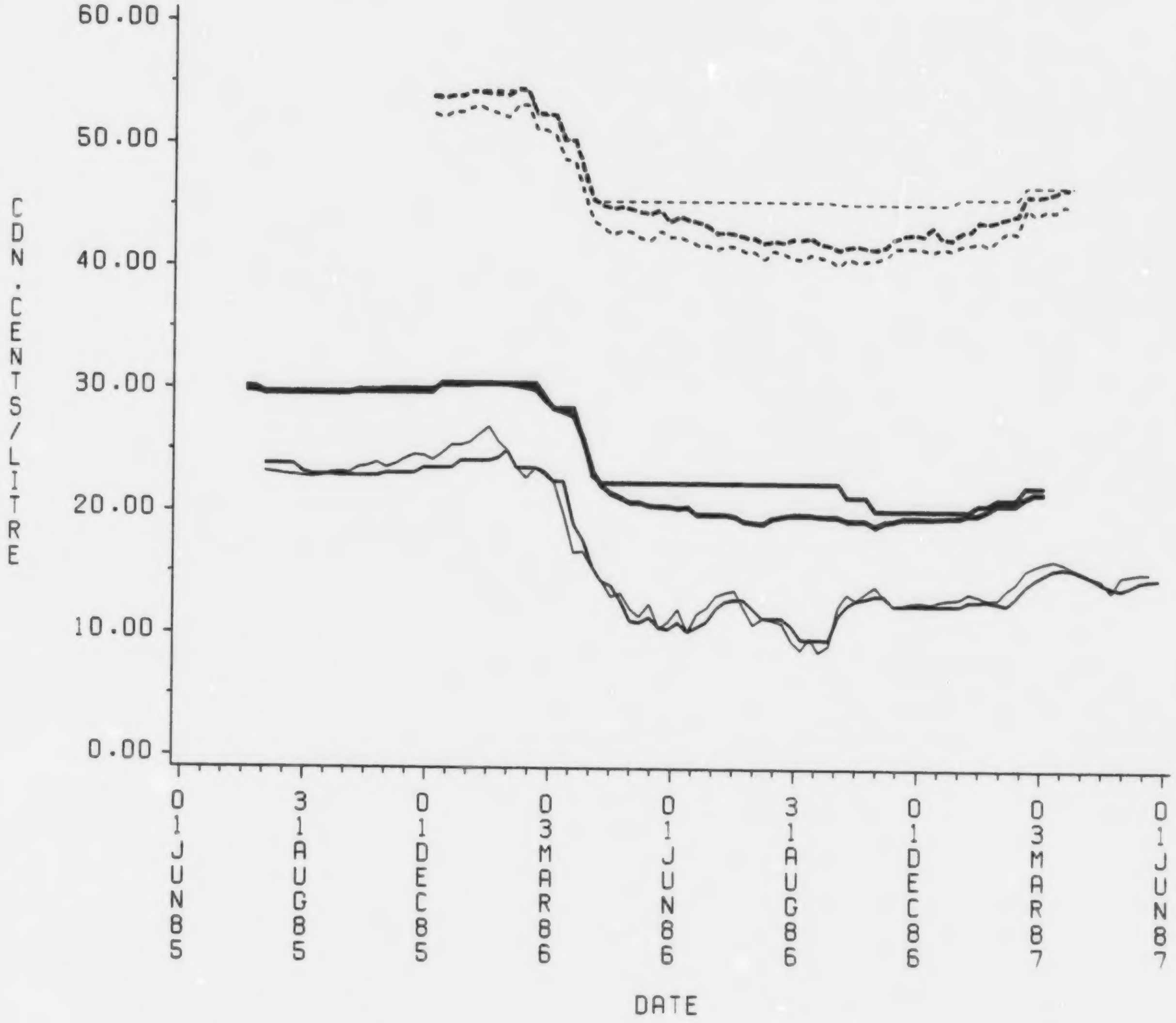
(c) Toronto resellers' margins are lower than those of Wpg resellers.

Figure 26

CRUDE, WHOLESALE RACKS AND RETAIL PRICES, WPG & CANADIAN AVERAGE

Prices are Averages in Canadian Cents per litre

-LEGEND-
LINE1 is thinnest solid, LINE5 is thinnest broken
LINE1(WTI+Brent lagged 8 wks) LINE2(Edmonton Postings lagged 8 wks)
LINE3(Wpg.Wholesale-Rack) LINE4(CDN Av. Wholesale Rack)
LINE5(Wpg.Retail)LINE6(Cdn Volume-Weighted Av)LINE7(Unweightd Av)



REMARKS: Based on weekly data, the Figure shows that while, on average, Canadian wholesale and retail prices appear to have followed crude prices to some degree, Wpg wholesale and especially retail prices did not follow as well. Specifically, (a) Wpg wholesale, roughly equal to the Cdn average before March 86 (higher by .05 c/l), became higher by 1.48 c/l since. (b)Likewise, Wpg retail prices, higher than Cdn av. by .08 (1.49) c/l before March 86, rose to 1.90 (3.29) c/l higher since. (bracketed figures are comparisons of Wpg price with wghted Cdn av.).

Figure 27

CHICAGO RETAIL TRACKS CRUDE OIL AND WHOLESALE GASOLINE

All values are in Cdn c/l

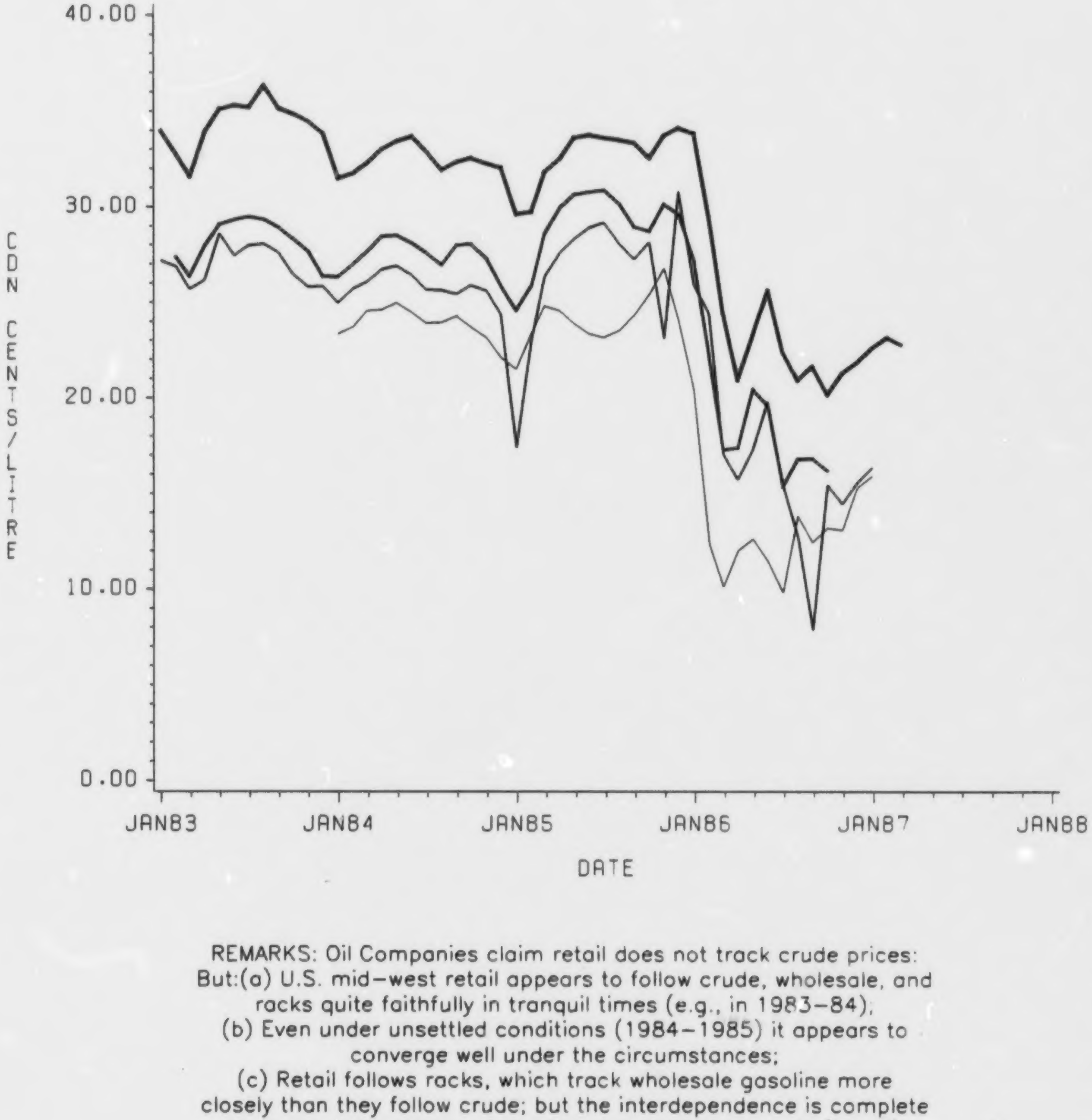
Gasoline prices are for regular leaded

-LEGEND-

LINE1 is thinnest solid, LINE5 is thinnest broken

LINE1(WTI Spot crude), LINE2(N.Y. wholsale Gasoline)

LINE3(Illinois Racks), LINE4(Chicago ex tax retail price)



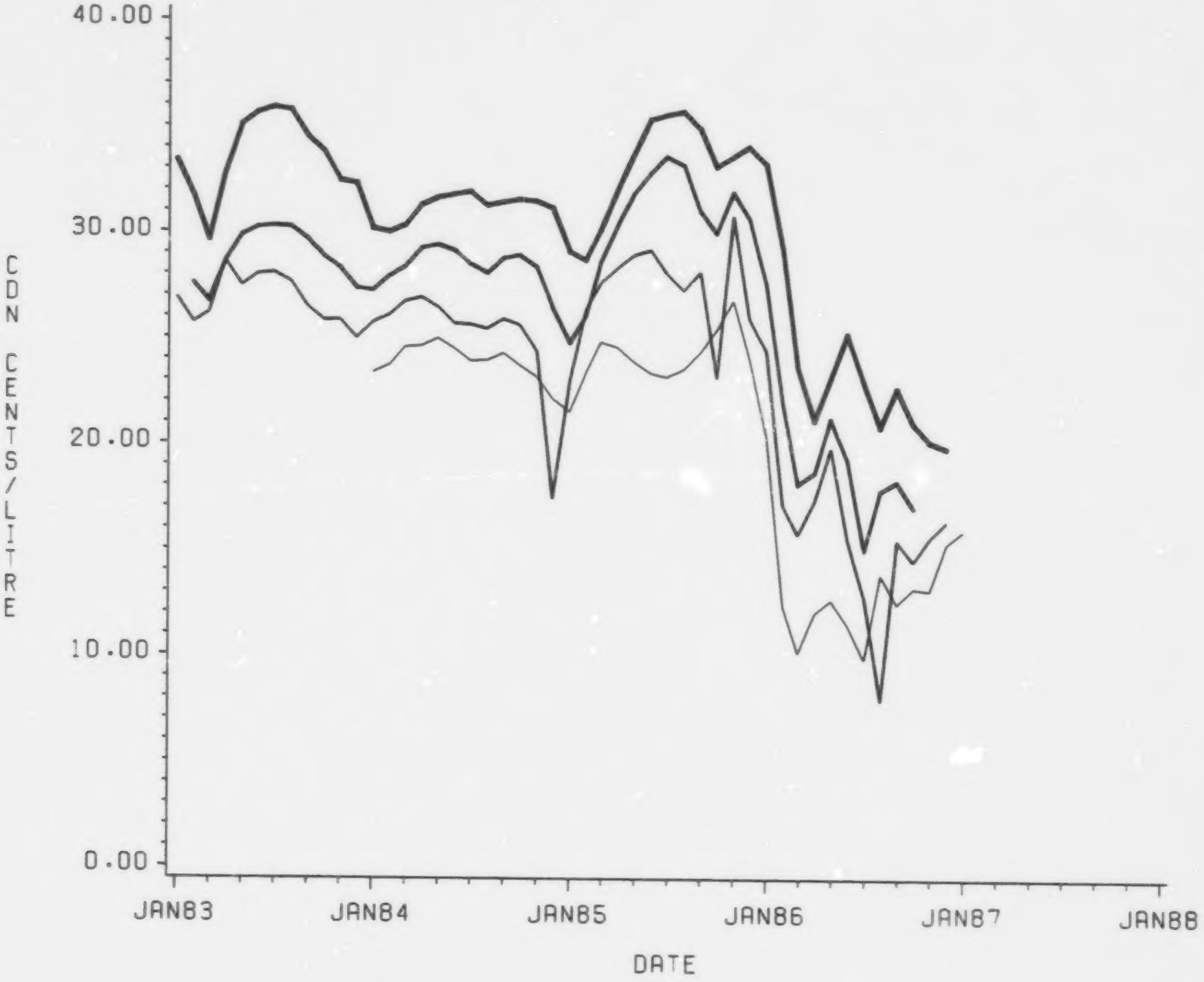
REMARKS: Oil Companies claim retail does not track crude prices:
But:(a) U.S. mid-west retail appears to follow crude, wholesale, and
racks quite faithfully in tranquil times (e.g., in 1983-84);
(b) Even under unsettled conditions (1984-1985) it appears to
converge well under the circumstances;
(c) Retail follows racks, which track wholesale gasoline more
closely than they follow crude; but the interdependence is complete
because wholesale gasoline prices are related to crude (Fig. 8);
and (d) the differential between U.S. midwest retail and crude was
only 8.90-9.17 c/l, while it was 15.99 c/l for Wpg (weekly data).

Figure 28

MINNEAPOLIS RETAIL TRACKS CRUDE OIL AND WHOLESALE GASOLINE

All values are in Cdn c/l
Gasoline prices are for regular leaded

-LEGEND-
LINE1 is thinnest solid, LINE5 is thinnest broken
LINE1(WTI Spot crude), LINE2(N.Y. wholsale Gasoline)
LINE3(Minnesota Racks), LINE4(Minneapolis ex tax retail price)



REMARKS: Oil Companies claim retail does not track crude prices:
But: (a) U.S. mid-west retail appears to follow crude, wholesale, and racks quite faithfully in tranquil times (e.g., in 1983-84);
(b) Even under unsettled conditions (1984-1985) it appears to converge well under the circumstances;
(c) Retail follows racks, which track wholesale gasoline more closely than they follow crude; but the interdependence is complete because wholesale gasoline prices are related to crude (Fig. 8);
and (d) the differential between U.S. midwest retail and crude was only 8.90-9.17 c/l, while it was 15.99 c/l for Wpg (weekly data).

Figure 29

RACK PRICE COMPARISON, BUFFALO & GRAND FORKS

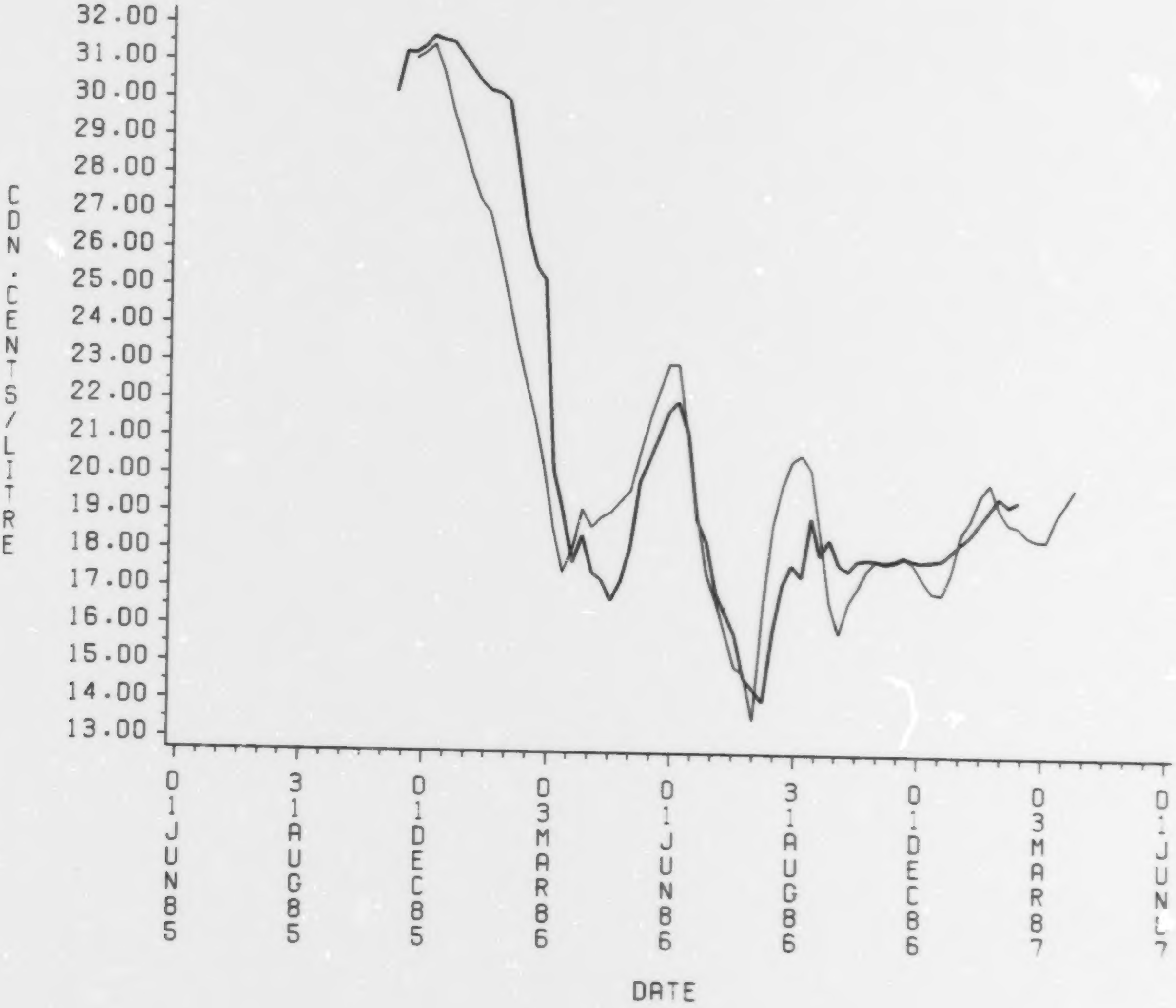
For Regular Leaded Gasoline in Cdn.cents per litre

-LEGEND-

LINE1 is thinnest solid and LINE5 is thinnest brkn

LINE1(Grand Forks Rack)

LINE2(Buffalo Representative Tankcar Price)



-REMARKS-

The Grand Forks wholesale market appears under more or less effective competition, and is quite faithfully connected to other competitive markets such as Buffalo.

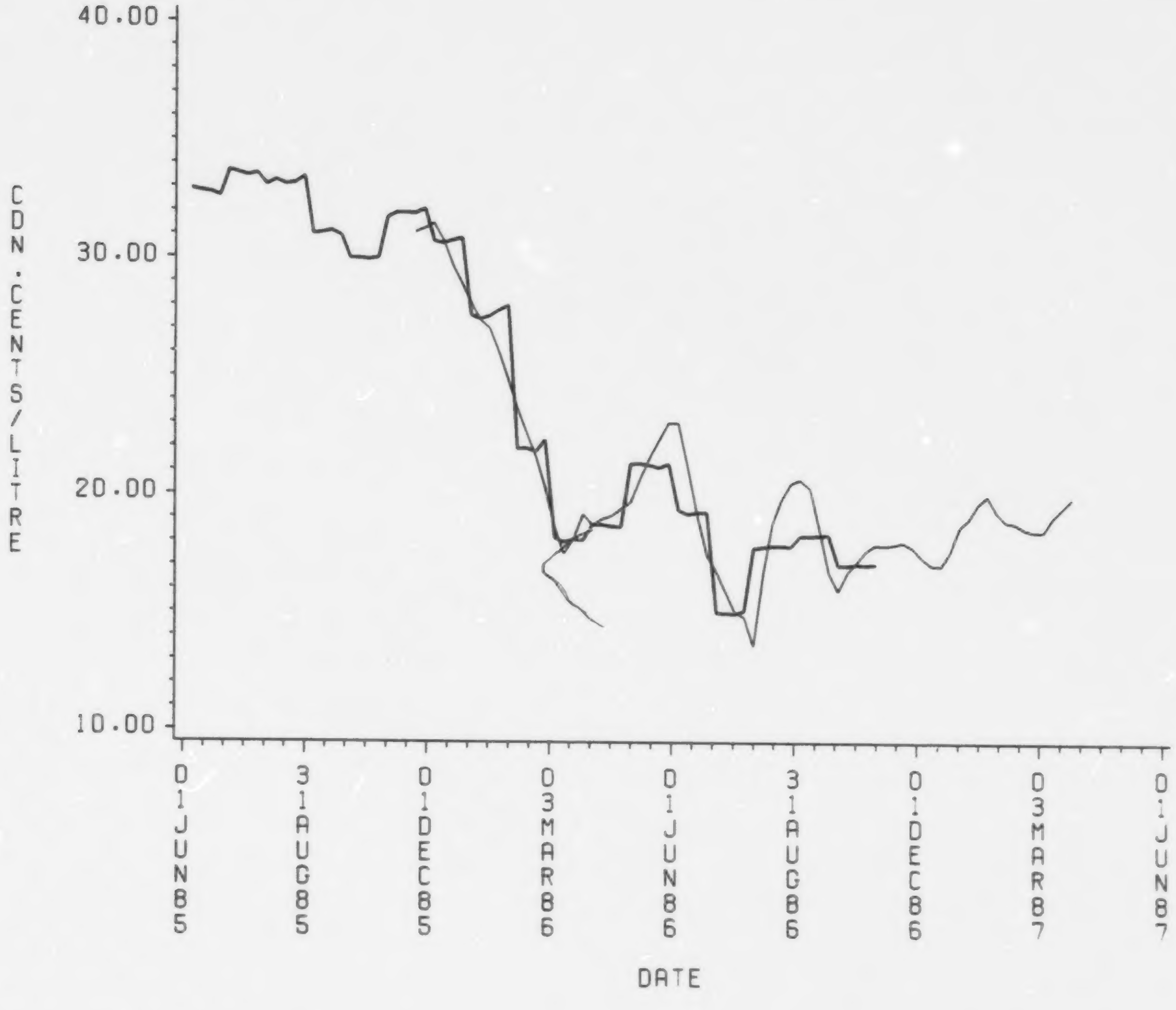
Figure 30

GRAND FORKS RACKS COMPARED TO MINNESOTA RACKS

For Regular Leaded Gasoline in Cdn.cents per litre

-LEGEND-

LINE1 is thinnest solid and LINE5 is thinnest brkn
LINE1(Grand Forks Rack)
LINE2(Minnesota Rack average)



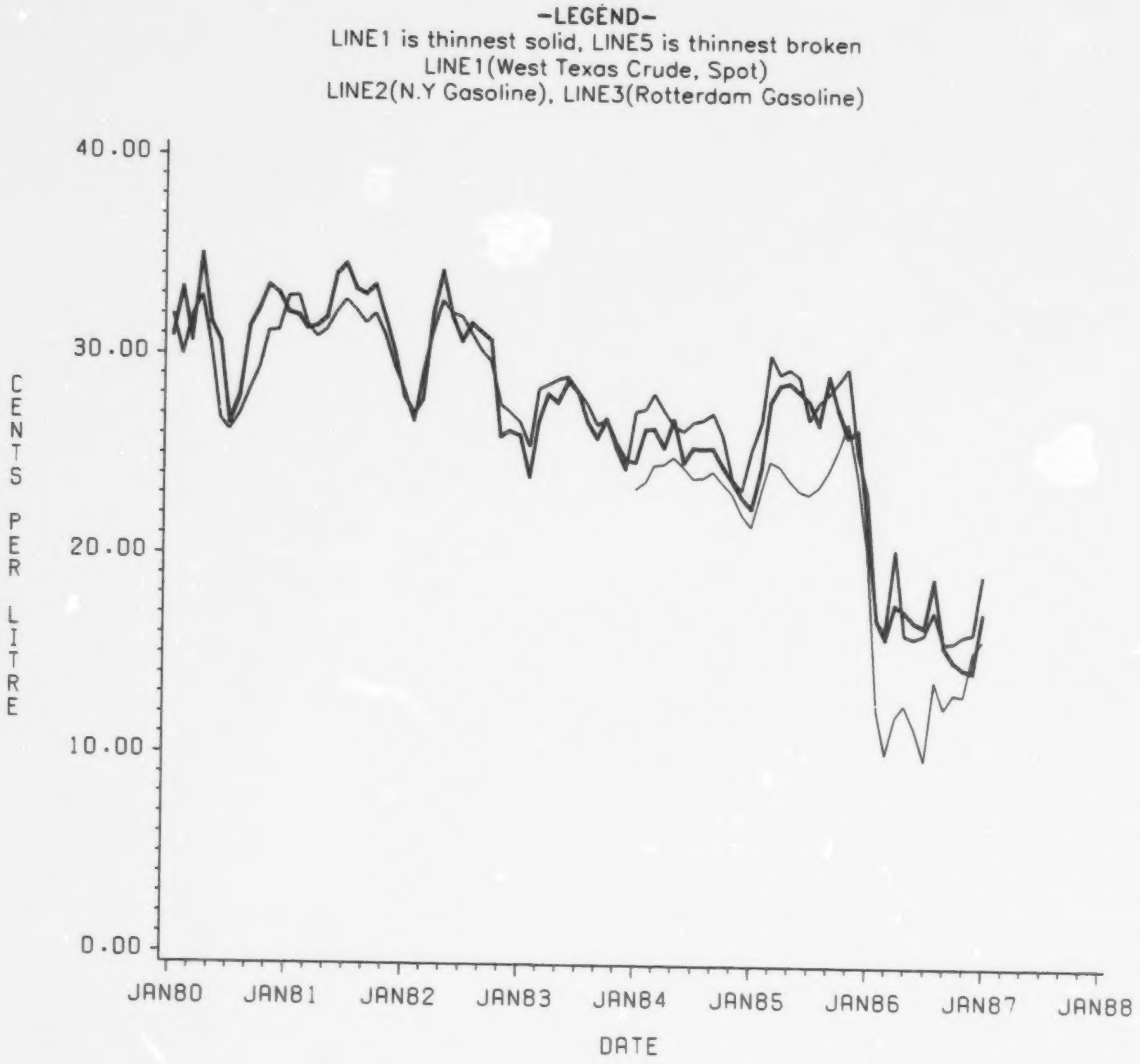
-REMARKS-

The Comparison should be used with caution,
since Minnesota racks are monthly data
transformed to weekly by assuming that
every week of the month has the month
average price
Nevertheless, the figure verifies Minneapolis
as a competitive source of gasoline.

Figure 31

Comparison of N.Y. and Rotterdam Wholesale Product Prices

Prices are in Cdn c/l



-REMARKS-

(a) The New York and Rotterdam Wholesale Product Markets appear fairly well connected; the average difference between N.Y. and Rotterdam prices in the period examined was .17 c/l, with the two prices being less than 1.5 c/l from each other most of the time.

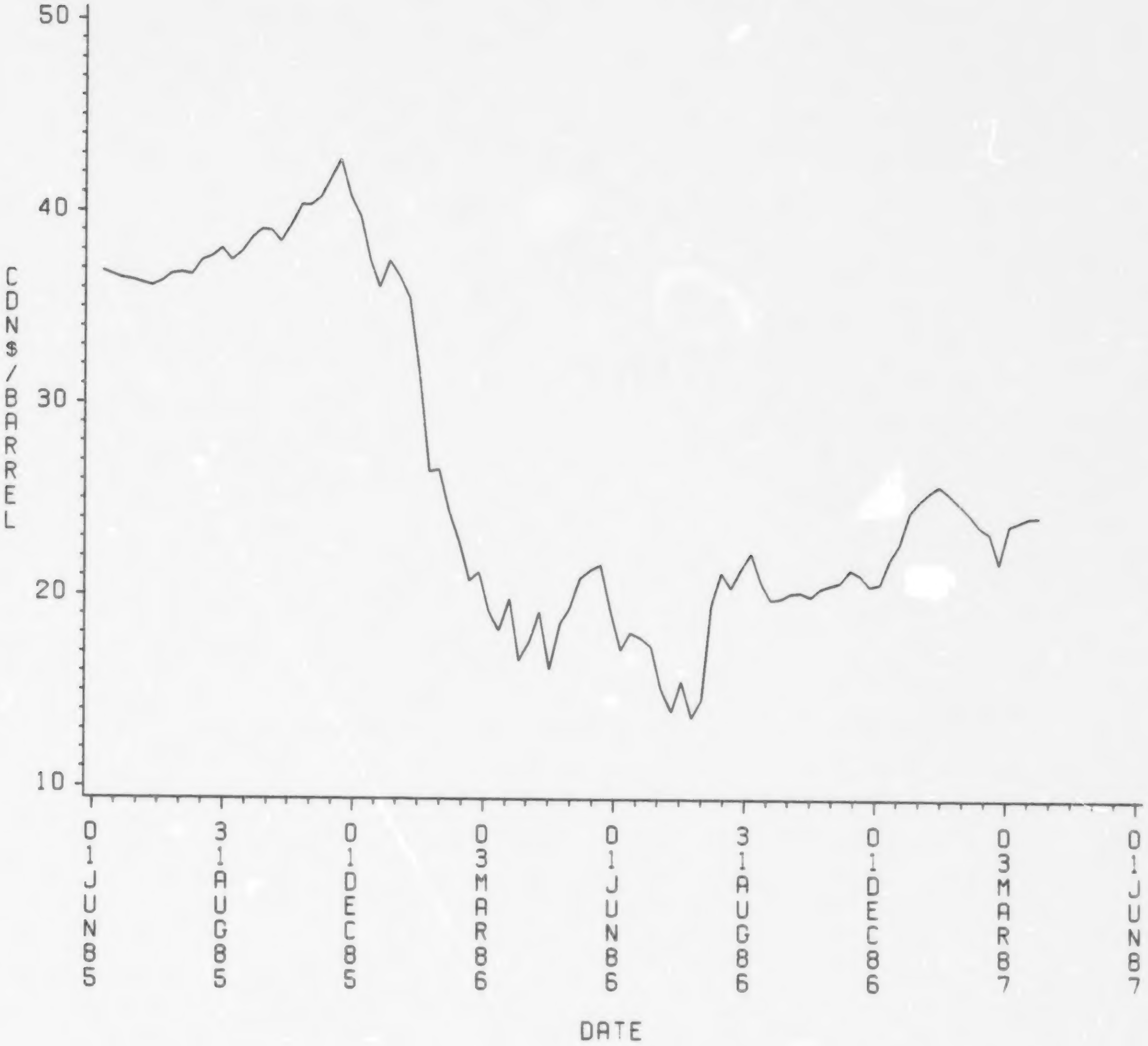
(b) The N.Y. wholesale gasoline price was, on average, 3.53 c/l higher than WTI spot crude during the same period, indicating that U.S. refiners had to operate under apparent margins of this general magnitude.

Figure 32

AVERAGE OF SPOT CRUDE OIL PRICES

WTI and Brent Crude

Weekly: June 07,1985 to March 31,1987



-REMARKS-

The average price in 1985 was CDN $38.20/bbl;
in the first quarter of 1986 the average fell to $24.59;
for the rest of 1986, it fell further to $19.39;
and in the first quarter of 1987 the average rose to $24.24.

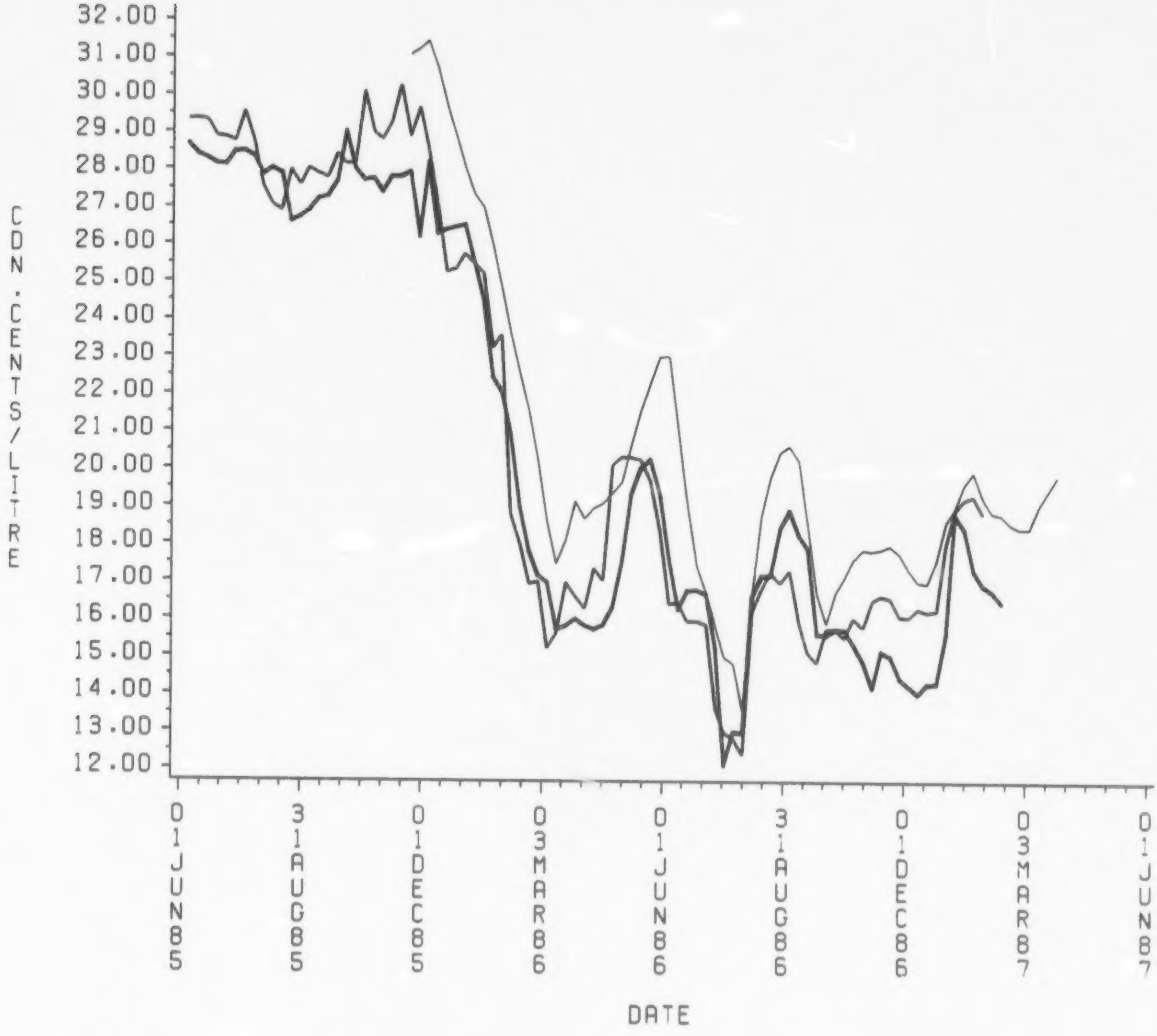
Figure 33

NEW YORK HARBOR, ROTTERDAM GASOLINE AND GRAND FORKS RACKS

Weekly – in Cdn. cents per litre

–LEGEND–

THIN LINE(Grand Forks Rack Average)
MEDIUM LINE(N.Y. Harbour Wholesale Gasoline)
THICK LINE(Rotterdam Gasoline)



–REMARKS–

New York and Rotterdam Harbour gasoline prices appear to move in unison, indicating a high degree of competition in product markets across the Atlantic Ocean.
On the other hand, Grand Forks racks also appear just as responsive and competitive as prices in these international markets, verifying Grand Forks as a competitive source of wholesale gasoline.

Figure 34

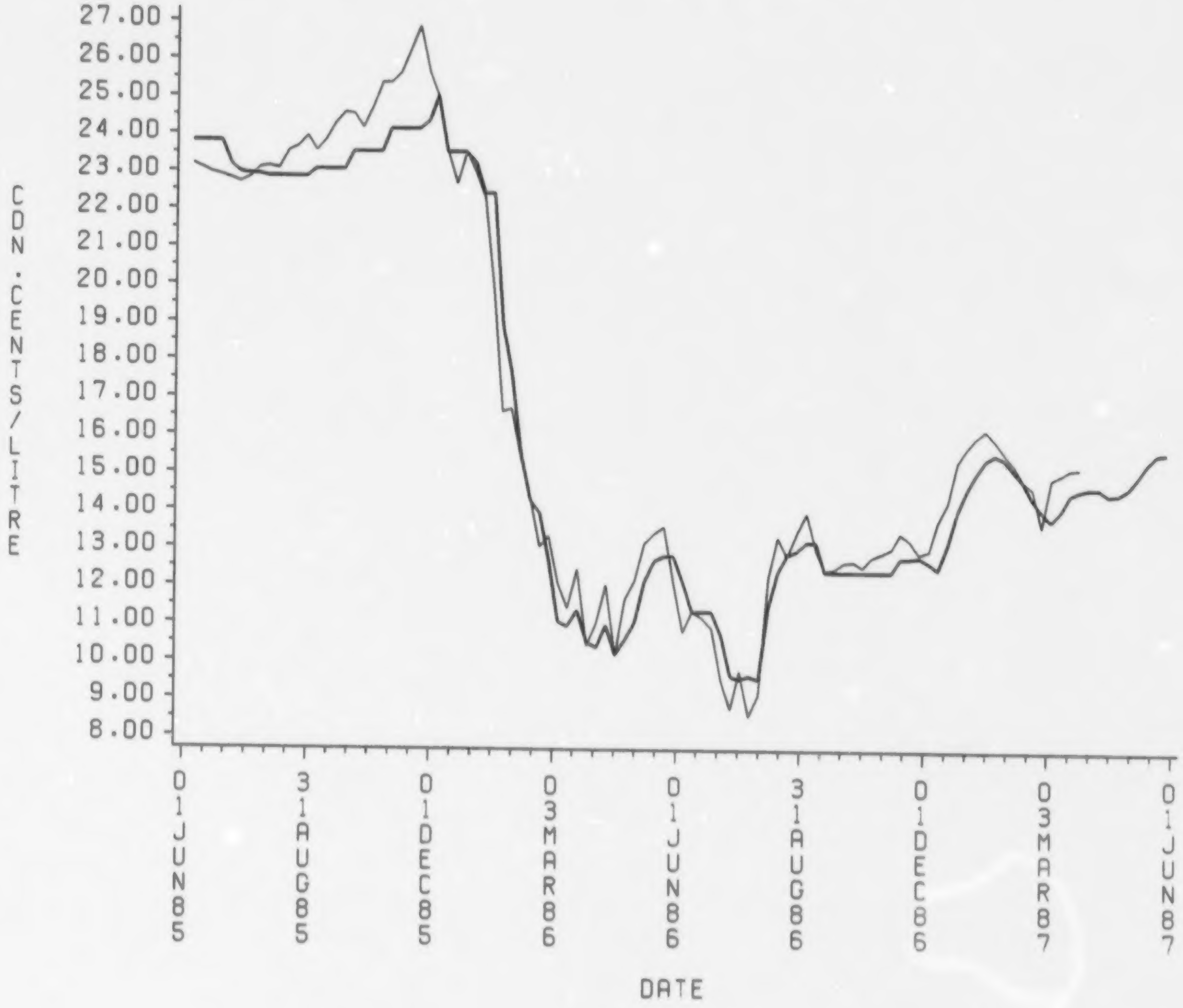
CRUDE OIL PRICES

Aver. Spot Crudes versus Edmonton Crude Postings

Prices are averages – in Canadian cents per litre

–LEGEND–

THIN LINE(Average of: WTI,Brent Crude Spot Prices)
MEDIUM LINE(Edmonton Postings, Can.Par, Average)



–REMARKS–

Can. Par Prices are Posted Prices at Edmonton

West Texas Intermediate (WTI) and Brent
are spot prices

Average of spot crudes in period=$26.71
Average of Canadian Par in period=$26.21
The two series track fairly closely

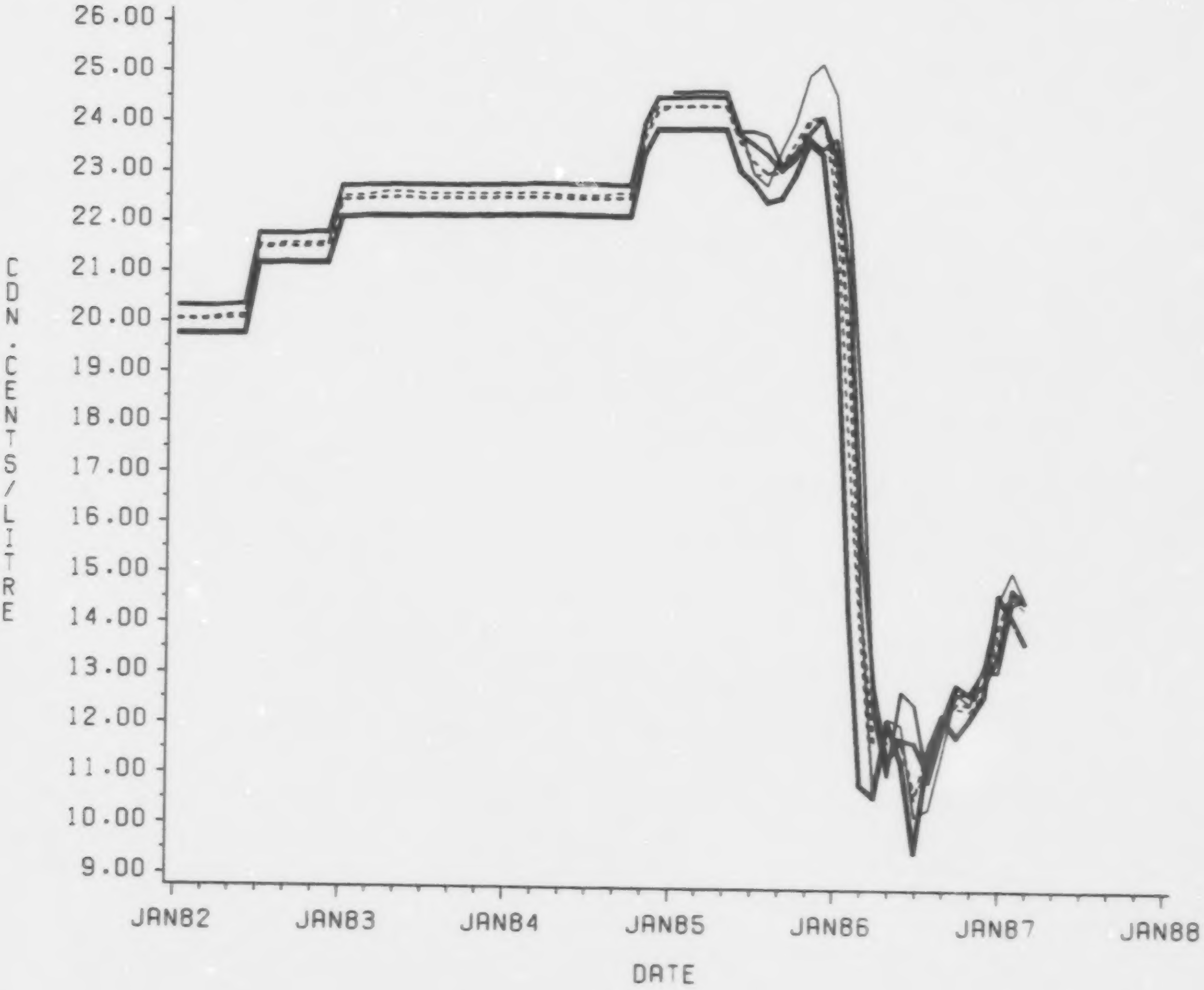
Figure 35

CDN REFINERS ACQUISITION COSTS BY REGION

Prices are monthly averages – in Canadian cents per litre

–LEGEND–

LINE1 is thinnest solid, LINE5 is thinnest broken
LINE1(Atlantic), LINE2(Quebec), LINE3(Ontario)
LINE4(Prairie), LINE5(B.C.), LINE6(Canadian)



–REMARKS–

Canadian average acquisition costs of crude oil were 20.03 c/l in January 1982, and rose to 23.67 c/l by June 1985, the beginning of deregulation.
These costs hovered around that area for the rest of 1985, and started falling, to a low of 10.67 c/l in July 1986.

Figure 36

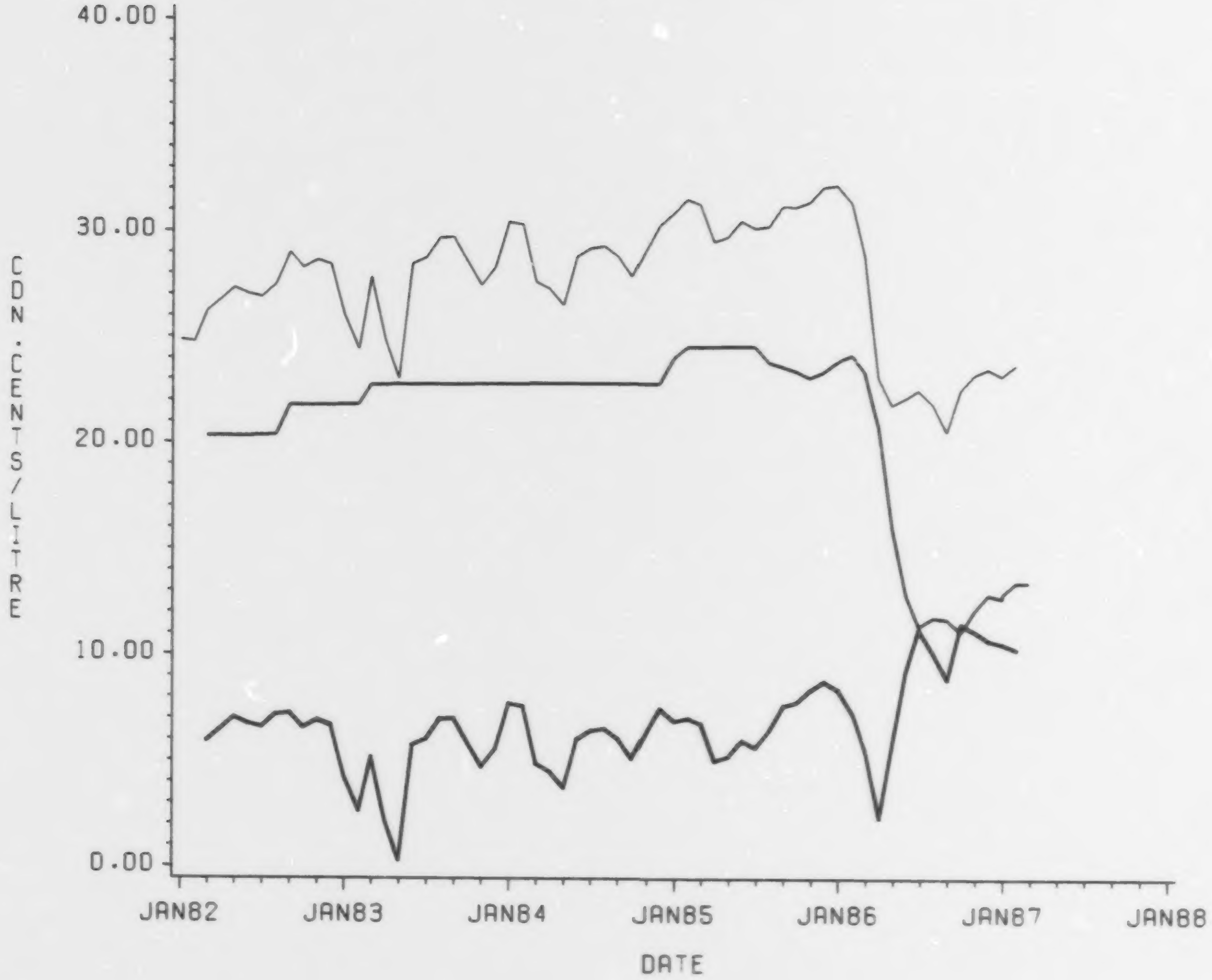
CDN REFINERS APPARENT MARGINS: ONTARIO REGION

Refiners Acquisition Costs versus Regular Gas Realized Prices

Monthly with differential – in Canadian cents per litre

–LEGEND–

THIN LINE(Ontario Region Prices)
MEDIUM LINE(Ontario Region Costs)
THICK LINE(Refiners Margin)



–REMARKS–

Crude Costs to Refiners are represented by Regional Refinery Acquisition Cost Data lagged by two months (a favourably long lag). Sales Prices are the Average Regional Realized Prices for all sales of Regular Gasoline
The Average apparent margin is estimated at 5.99 c/l over the period.

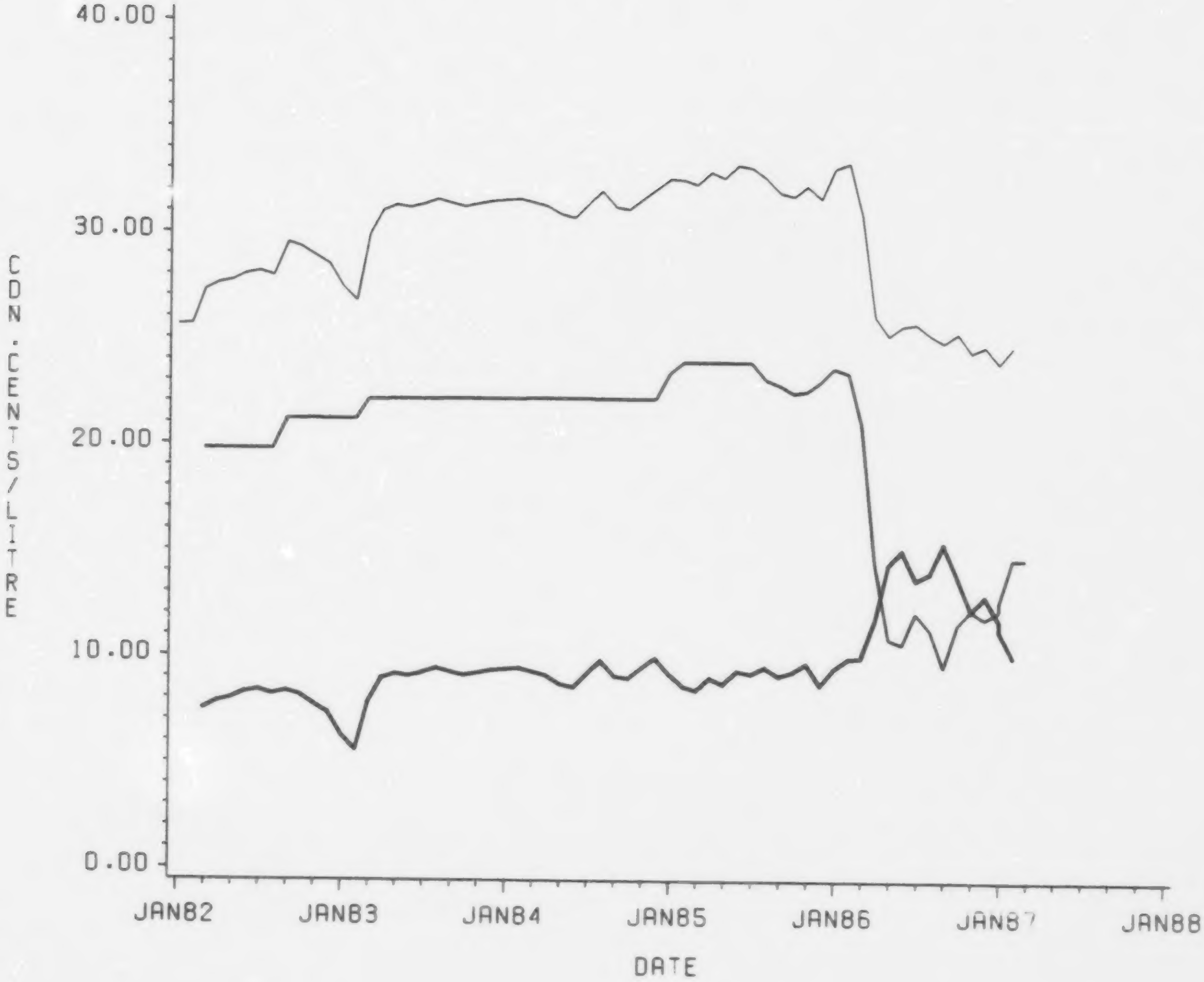
Figure 37

CDN REFINERS APPARENT MARGINS: PRAIRIE REGION

Refiners Acquisition Costs versus Regular Gas Realized Prices

Monthly with differential – in Canadian cents per litre

–LEGEND–
THIN LINE(Prairie Region Prices)
MEDIUM LINE(Prairie Region Costs)
THICK LINE(Refiners Margin)



–REMARKS–

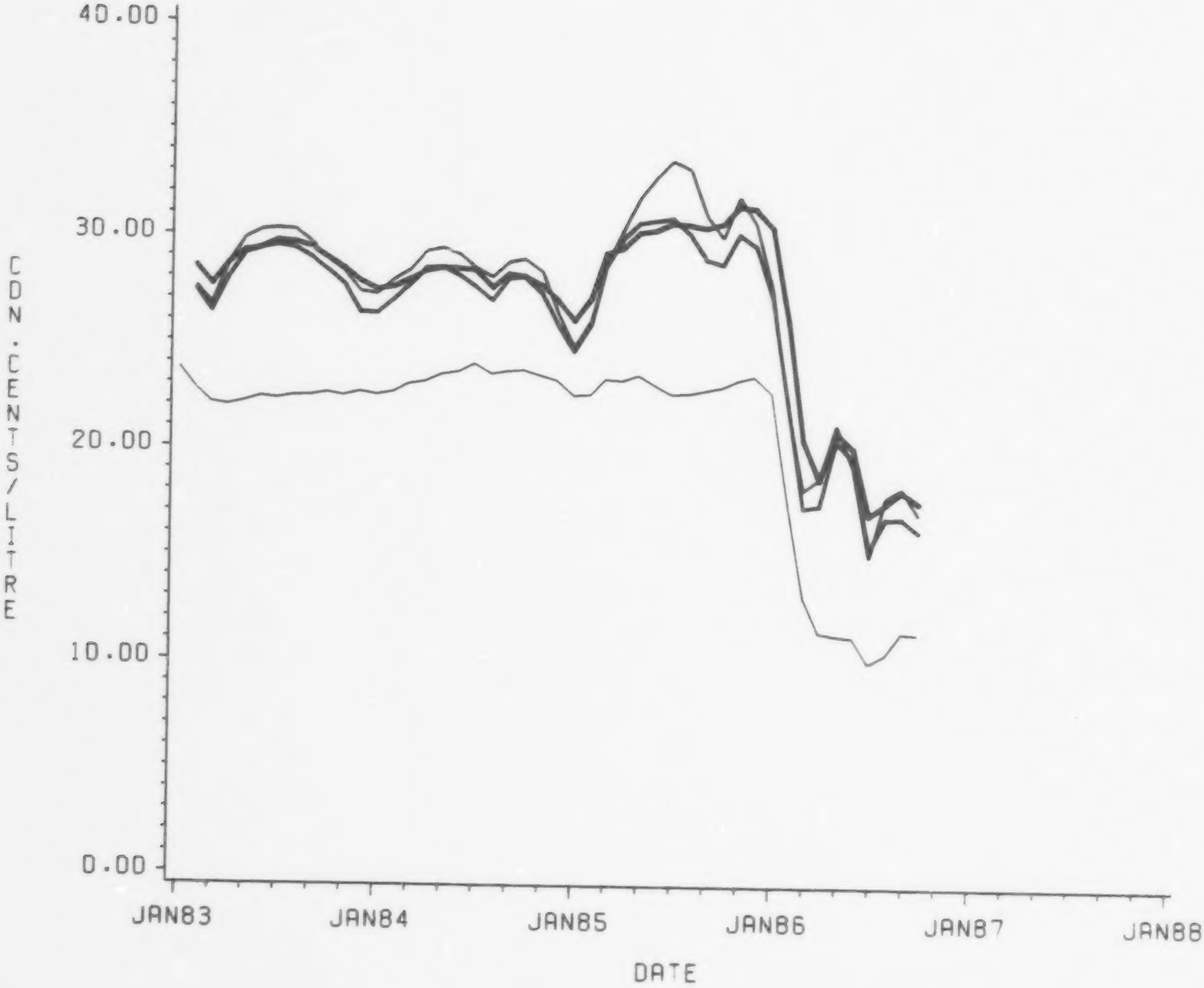
Crude Costs to Refiners are represented by Regional Refinery
Acquisition Cost Data lagged by two months (a favourably long lag).
Sales Prices are the Average Regional Realized Prices
for all sales of Regular Gasoline
The average apparent margin is estimated at 8.71 c/l for the period.

Figure 38

U.S. REFINERS RACKS AND ACQUISITION COSTS

Prices are averages in Cdn.cents/Litre

-LEGEND-
LINE1 is thinnest solid, LINE4 is thickest solid
LINE1(U.S.Average Acquisition Costs) LINE2(Minnesota Rack)
LINE3(Illinois Rack) LINE4(New York Rack)



-REMARKS-

American Refiners Rack Prices
appear to be driven not only
by cost, but also by short-run market factors
(competition from refined fuels)
although the long-run influence of costs
is plain when crude costs collapse in 1985

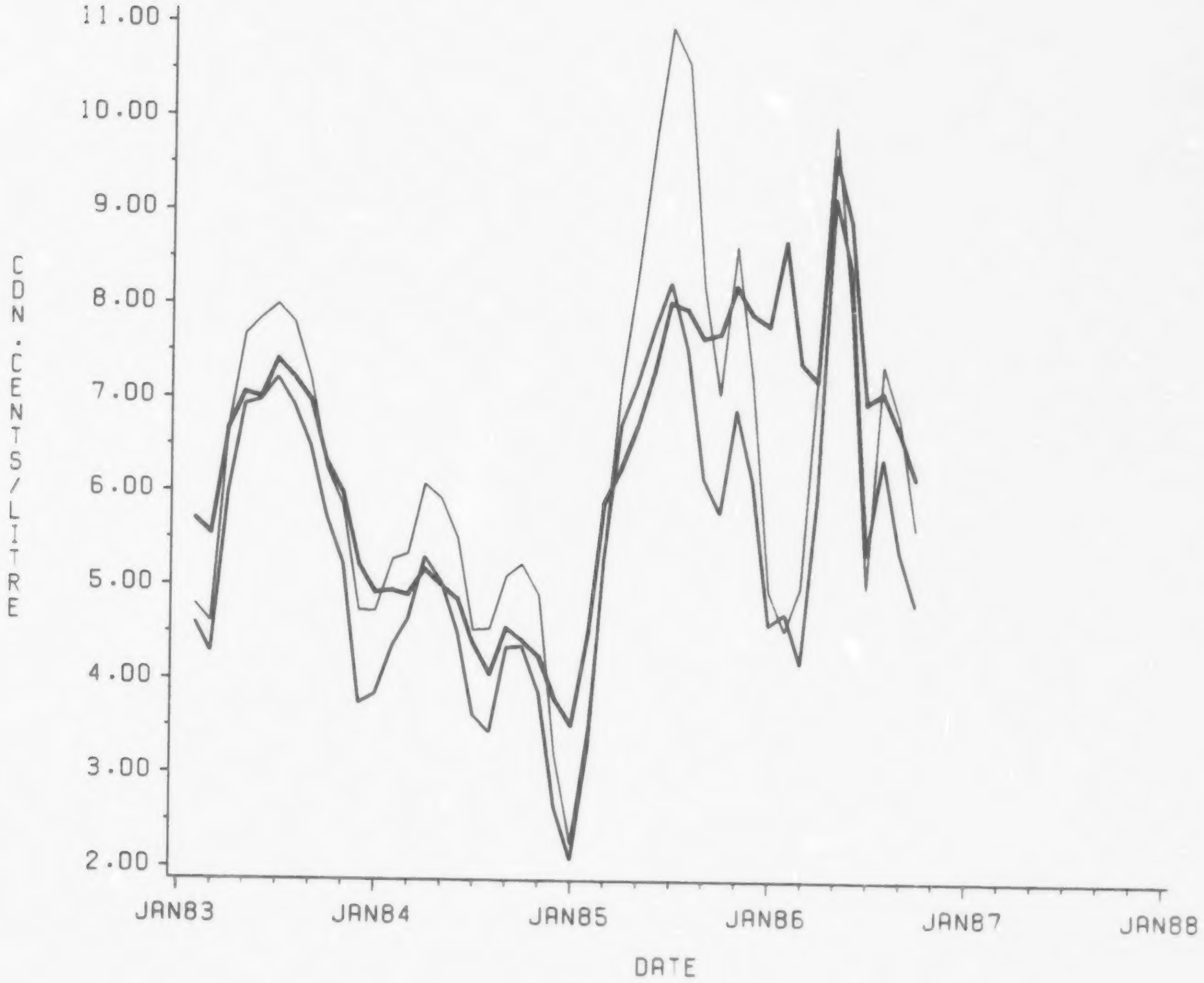
Figure 39

U.S. REFINERS APPARENT MARGINS

Prices are averages in Cdn.cents/Litre

-LEGEND-

THIN LINE(Minnesota Apparent Margin)
MEDIUM LINE(Illinois Apparent Margin)
THICK LINE(New York Apparent Margin)



-REMARKS-

Average Refiners margins for the period are:
6.34 c/l for Minnesota, 5.47 c/l for Illinois
and 6.32 c/l for New York State

The overall three-state average was 6.04 c/l.
This body of data does not produce margins
strictly comparable to the Canadian figures

Figure 40

CDN REFINERS RACK PRICES

Canadian Regular Leaded Rack versus Spot Crude Aver. Prices

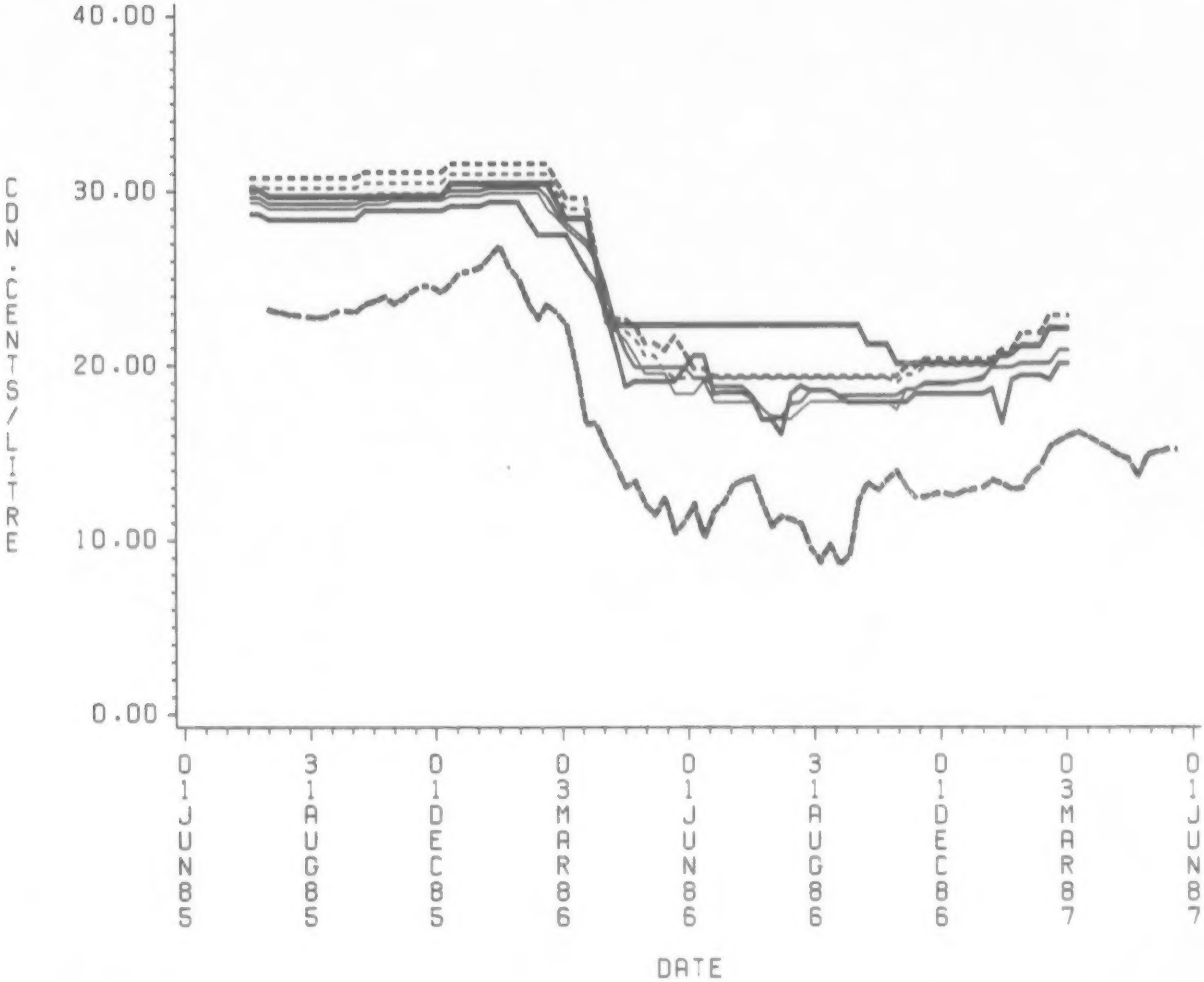
Prices are averages – in Canadian cents per litre

–LEGEND–

LINE1 is thinnest solid, LINE5 is thinnest broken

LINE1(Montreal), LINE2(Ottawa), LINE3(Toronto), LINE4(Winnipeg)

LINE5(Regina), LINE6(Vancouver), LINE7(Victoria), LINE8(Crude)



–REMARKS–

Crude Costs are calculated as average of Spot Crude Oil Prices lagged by eight weeks. Prices are the Posted Rack Prices (average of Esso & Shell). Winnipeg Racks seem to move in the centre of the band until March 1986, remaining static thereafter, and falling again in Oct., when all the others are constant or rising. The static behavior of Winnipeg Racks between March and October 1986, and the fall thereafter, are not explainable by market conditions.

Figure 41

CDN RACKS COMPARED TO PRICES TO RESELLERS

Canadian Regional Realized Prices minus City Posted Racks

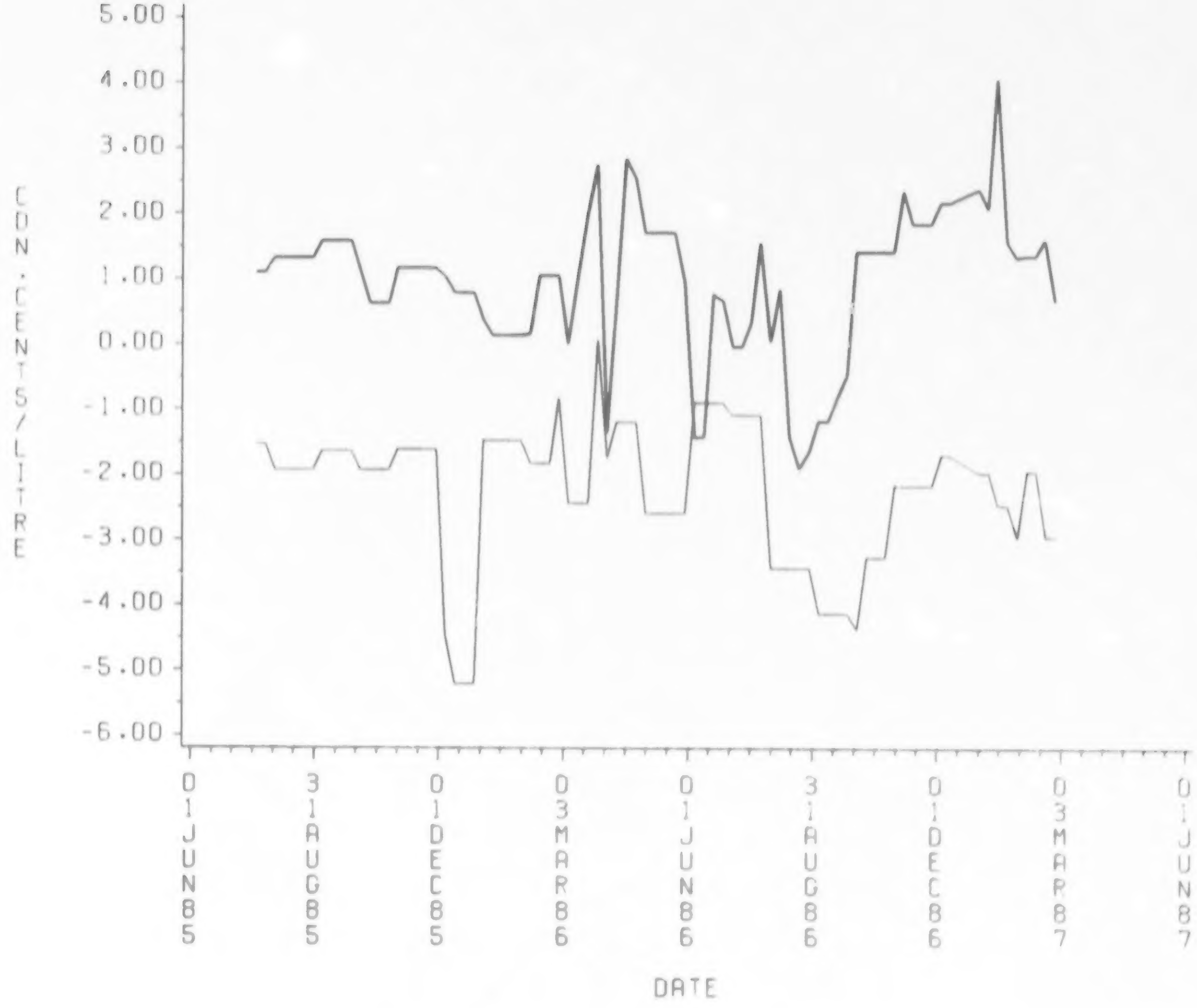
Prices are monthly averages – in Canadian cents per litre

-LEGEND-

LINE1 is thinnest solid, LINE5 is thinnest broken

LINE1(Prairies realized prices to refiners minus Wpg rack)

LINE2(Ontario Realized Prices minus Toronto rack)



-REMARKS-

The data show that realized prices to Prairie refiners were lower than racks in Wpg (2.23 c/l below rack on average), while prices of Ontario refiners to resellers were higher than racks (0.94 c/l on average).

Figure 42

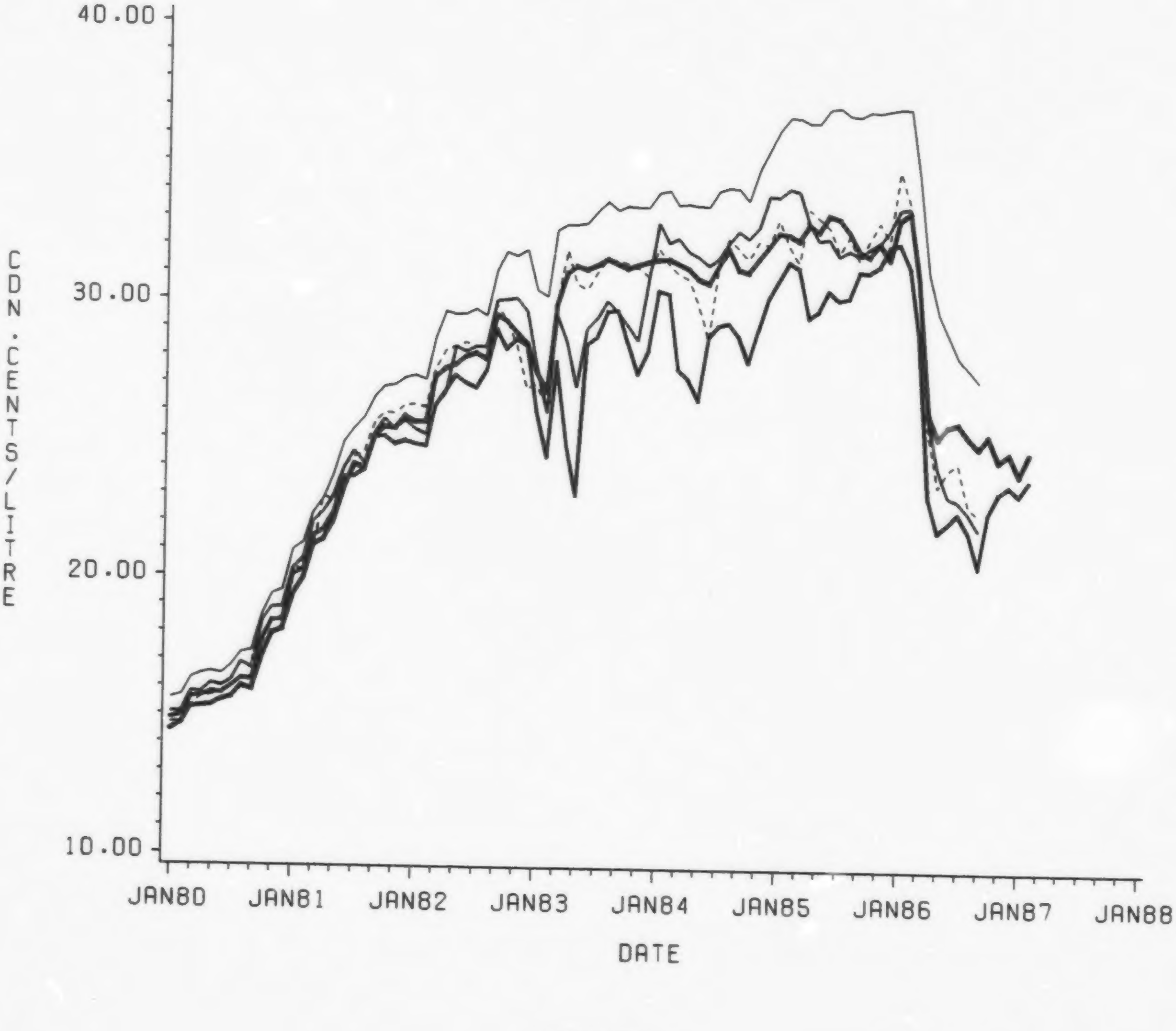
CDN REFINERS AVERAGE WHOLESALE PRICES

Canadian Regional Realized Prices for Regular Gas

Prices are monthly averages – in Canadian cents per litre

–LEGEND–

LINE1 is thinnest solid, LINE5 is thinnest broken
LINE1(Atlantic), LINE2(Quebec), LINE3(Ontario)
LINE4(Prairie), LINE5(B.C.)



–REMARKS–

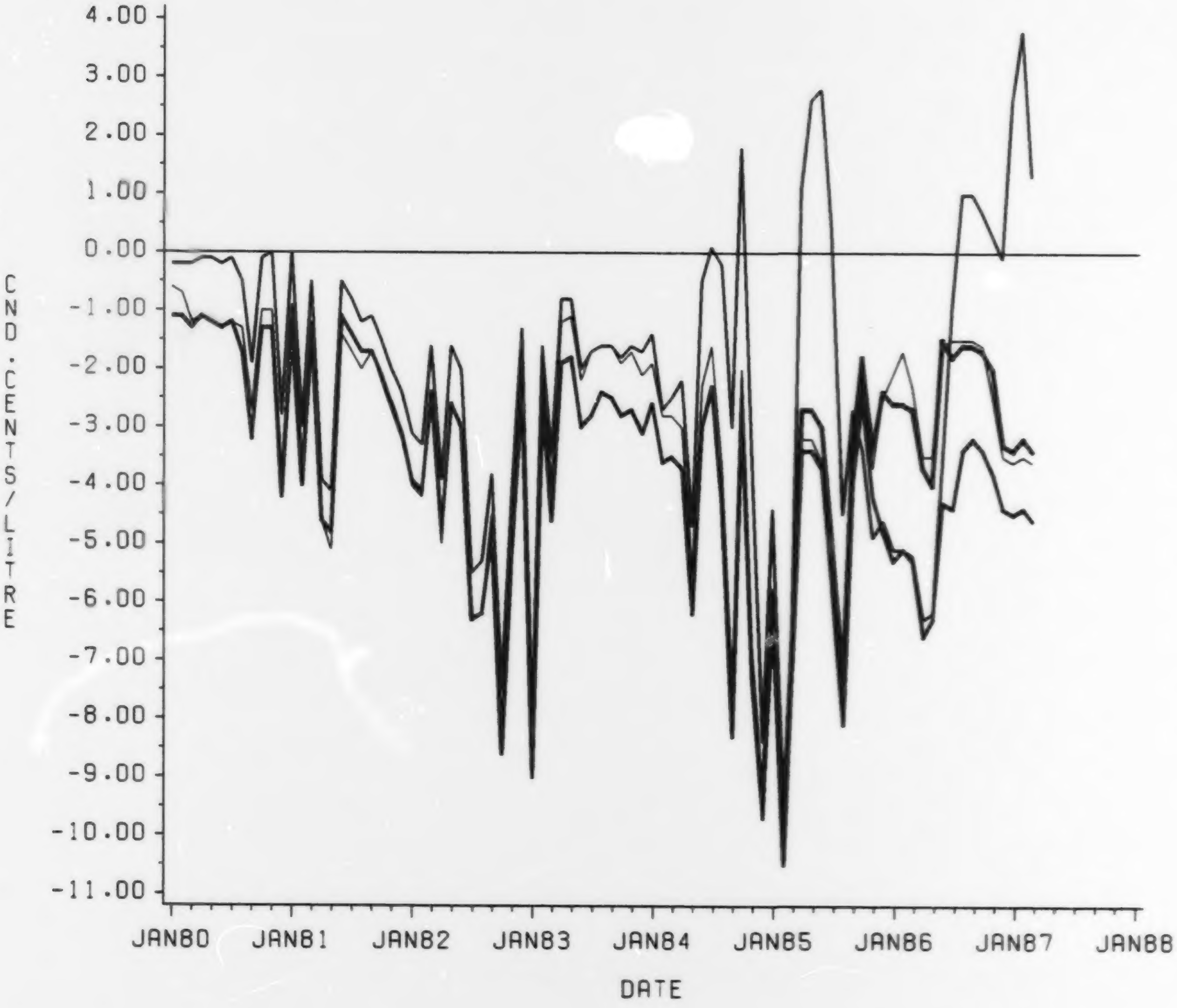
The figure shows average regional refiners' prices
to all buyers of regular gasoline.
Prairie refiner prices to such buyers slipped, in 1986,
to a position higher than in the past.

Figure 43

PRICE DIFFERENTIALS: WINNIPEG & ATLANTIC CANADA

Regular Leaded Self Serve Gasoline Prices (Net of Taxes)
From 1980 to 1987 in Canadian Cents per Litre

-LEGEND-
LINE1 is thinnest solid, LINE4 is thickest solid
LINE1(WPG./Halifax) LINE2(WPG./Saint John,NB)
LINE3(WPG./St.Johns,NFLD) LINE4(WPG/Charlottown)



-REMARKS-

Winnipeg prices have generally been lower
than prices in Atlantic Canada

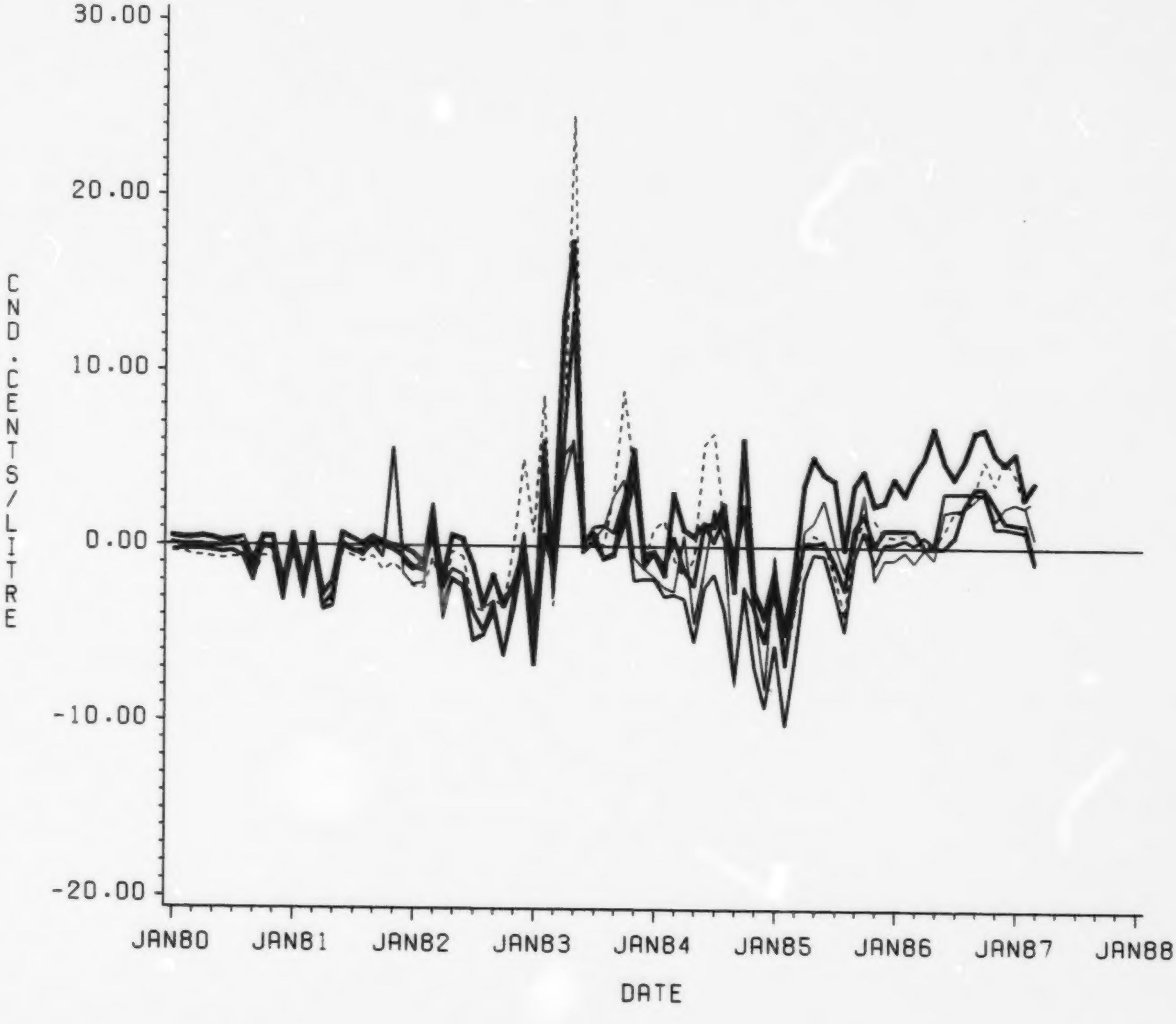
Halifax,NS & Saint John,NB original full serve prices have
been reduced by 0.4 cents/litre differential for proper
comparison with the other self serve gasoline prices

Figure 44

PRICE DIFFERENTIALS: WINNIPEG & CENTRAL CANADA

Regular Leaded Self Serve Gasoline Prices (Net of Taxes)
From 1980 to 1987 in Canadian Cents per Litre

-LEGEND-
LINE1 is thinnest solid, LINE4 is thickest solid
LINE1(WPG./Quebec City) LINE2(WPG./Montreal)
LINE3(WPG./Ott.) LINE4(WPG/Toronto) LINE5(WPG/ThBay)



-REMARKS-

Figure 45

PRICE DIFFERENTIALS: WINNIPEG & WESTERN CANADA

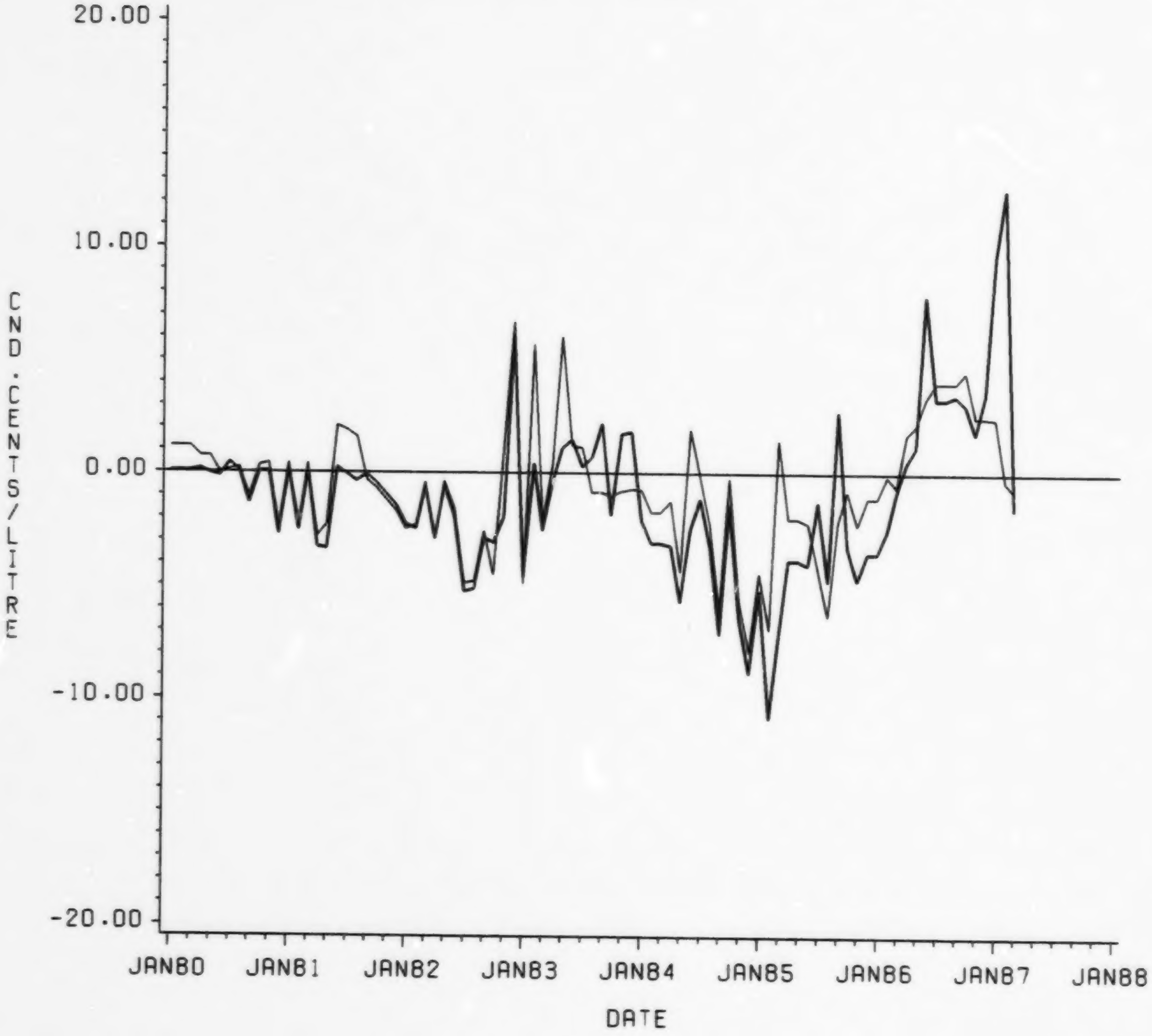
Regular Leaded Self Serve Gasoline Prices (Net of Taxes)

From 1980 to 1987 in Canadian Cents per Litre

-LEGEND-

LINE1 is thinnest solid, LINE4 is thickest solid

LINE3(WPG./Vancouver) LINE4(WPG./Victoria)



-REMARKS-

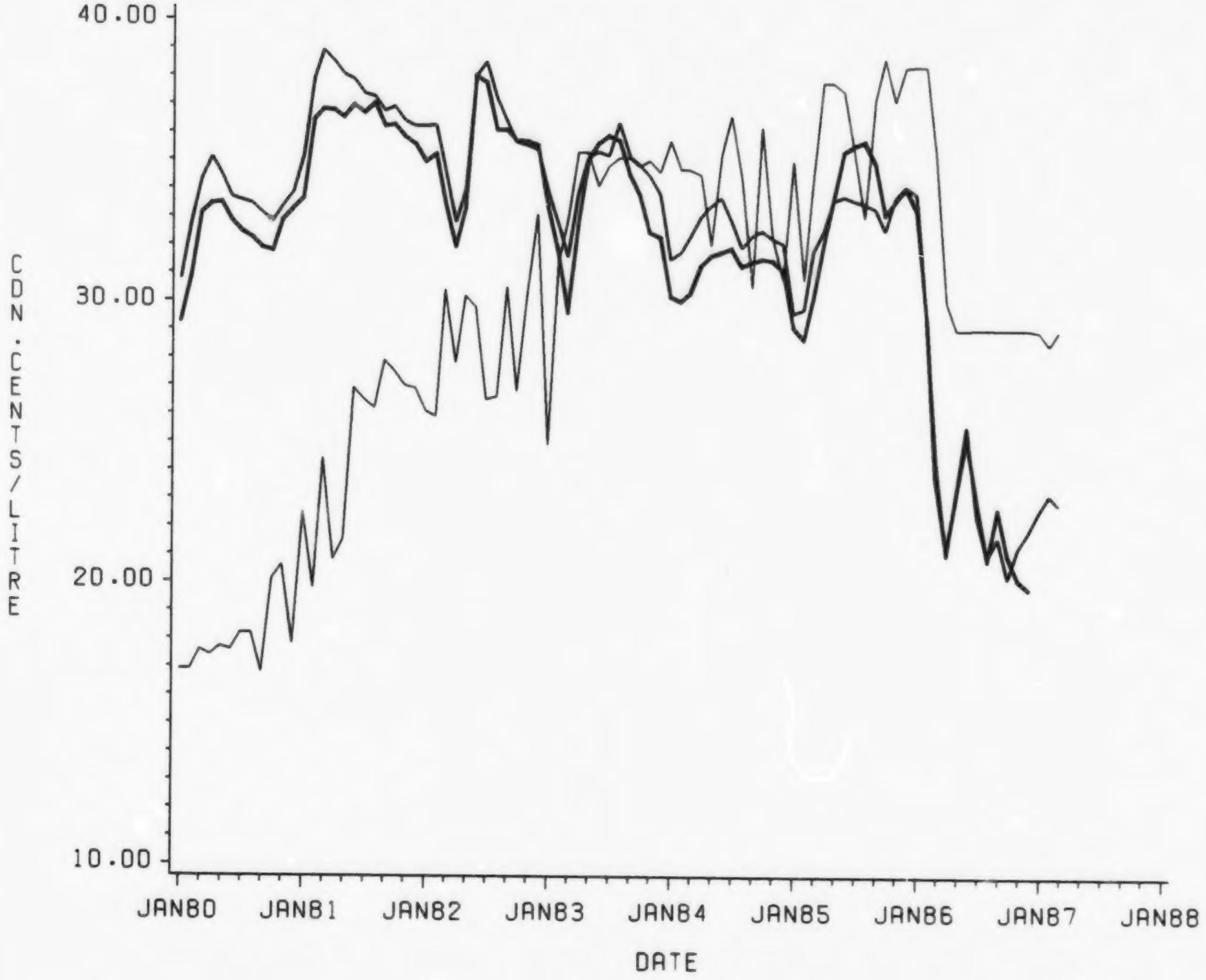
The Vancouver Urban Transit Tax, of 0.66 cents/litre prior to 1983 and 0.95 cents/litre since then, is included in the calculations

Figure 46

WINNIPEG VERSUS MID-WEST U.S.A.

Regular Leaded Self Serve Gasoline Prices (Net of Taxes)
From 1980 to 1987 in Canadian Cents per Litre

-LEGEND-
THIN LINE(Winnipeg)
MEDIUM LINE(Chicago)
THICK LINE(Minneapolis)



-REMARKS-

(1) The difference between Winnipeg and U.S.A. prices may in fact be slightly higher than indicated by the graph because: Winnipeg prices are Self-Serve, while U.S.A prices are averages of cash/credit and Full-Serve/Self-Serve

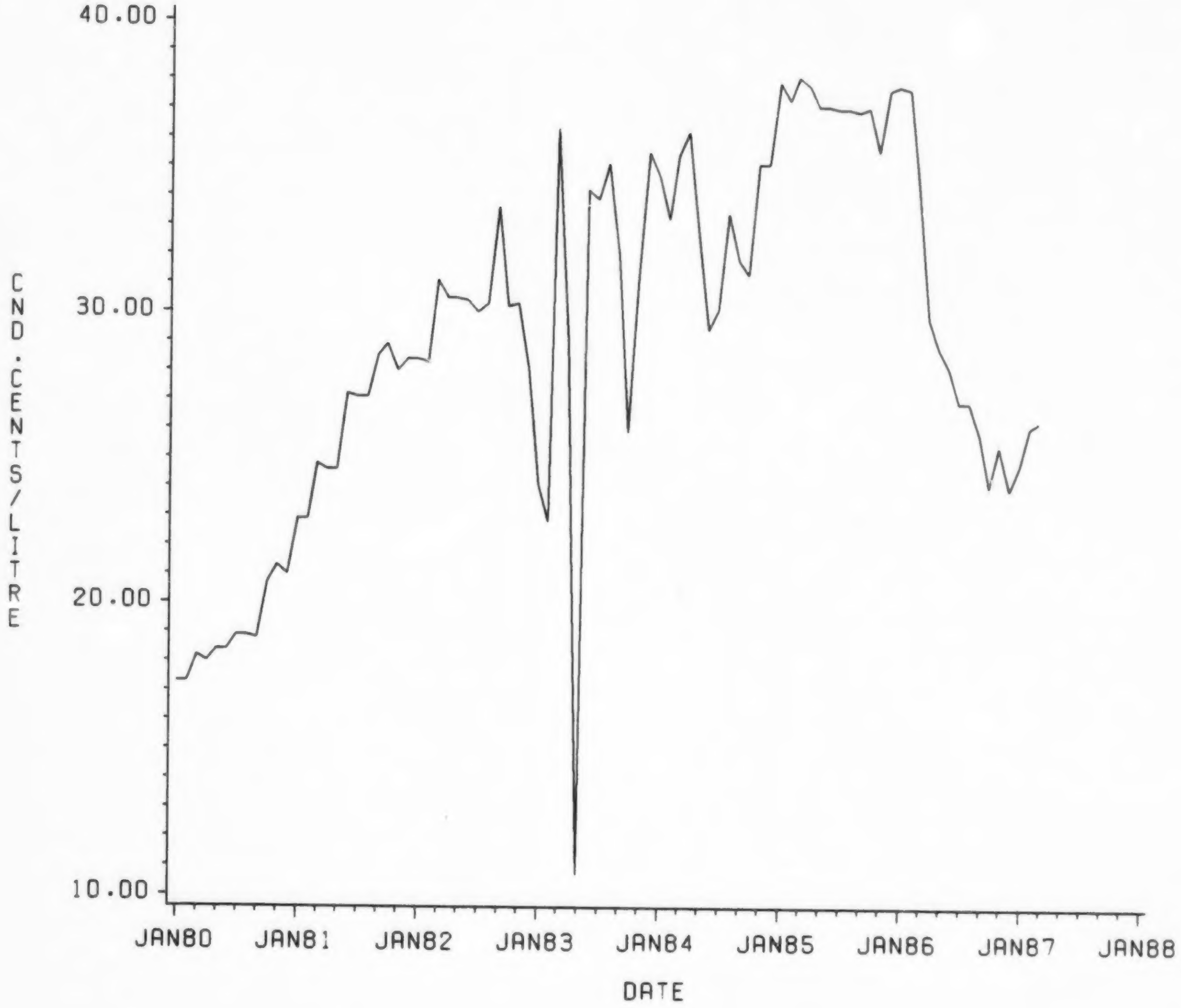
(2) Winnipeg prices seem to have been higher than U.S.A. Mid-West prices since Jan 1984. However, the differential seems to be widening as of the Spring of 1986

Figure 47

RETAIL PRICE MOVEMENTS IN THUNDER BAY

Regular Leaded Self Serve Gasoline Prices (Net of Taxes)
From 1980 to 1987 in Canadian Cents per Litre

-LEGEND-
LINE1 is thinnest solid, LINE4 is thickest solid
LINE1(THUNDER BAY)



-REMARKS-
The range, sharpness, and predominantly downward direction of price variations in 1983-85 fits the description of price-wars better than any other; large dips in prices occur in this market, where neither demand is volatile nor cost conditions fluctuate, and expectations are of little importance.

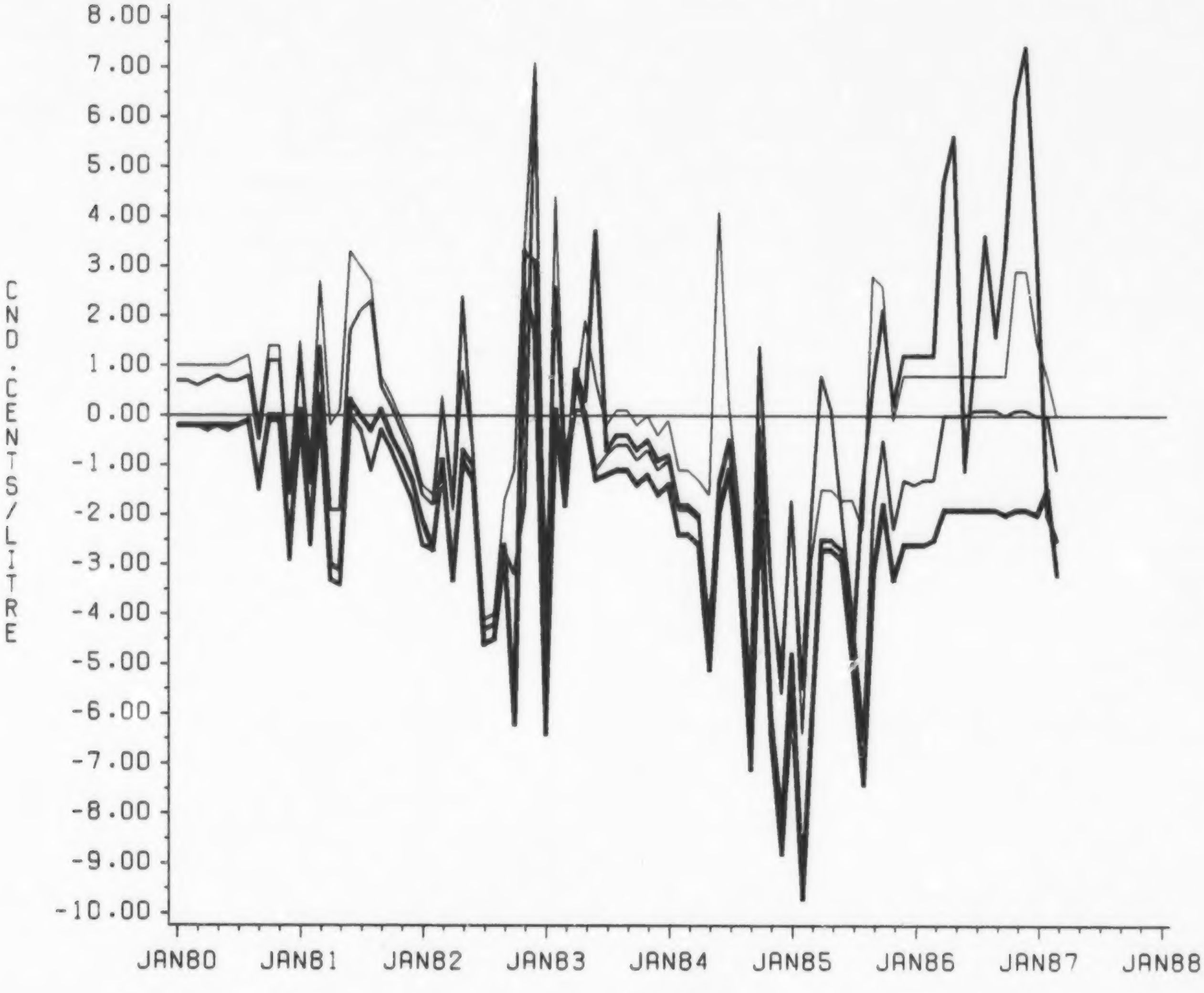
After the war, prices return to historical levels and trends.

Figure 48

PRICE DIFFERENTIALS: WINNIPEG & CANADIAN MIDWEST

Regular Leaded Self Serve Gasoline Prices (Net of Taxes)
From 1980 to 1987 in Canadian Cents per Litre

-LEGEND-
THIN LINE(WPG./Edmonton)
MEDIUM LINE(WPG./Calgary)
THICK LINE(WPG./Regina): THICKEST(WPG/Saskatoon)



-REMARKS-

Figure 49

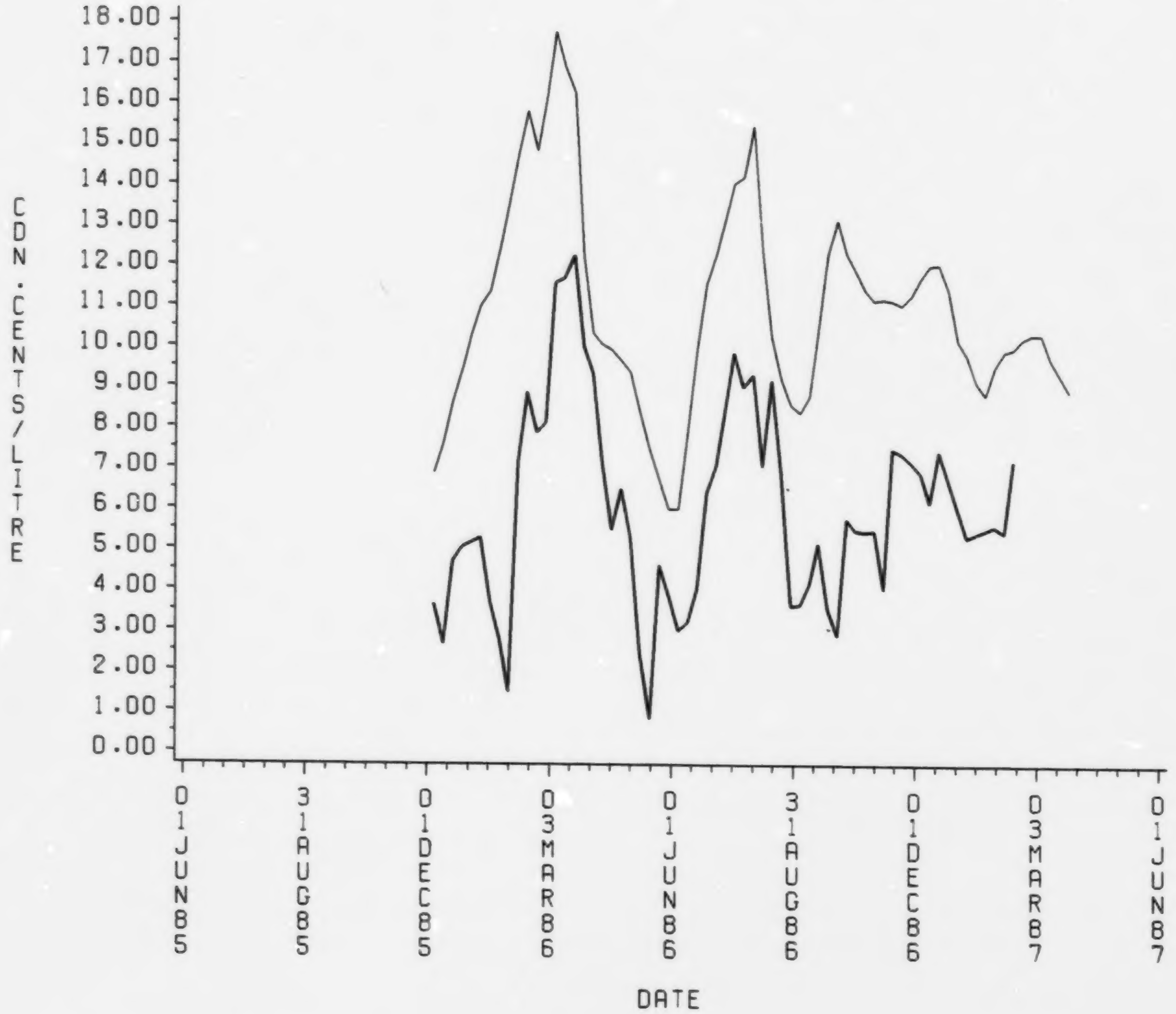
RESELLERS MARGINS UPON IMPORTATION, WPG & TORONTO

For Regular Leaded Gasoline in Cdn.cents per litre

–LEGEND–

LINE1 is thinnest

LINE1(Wpg Import margin) LINE2(Tor. Import margin)



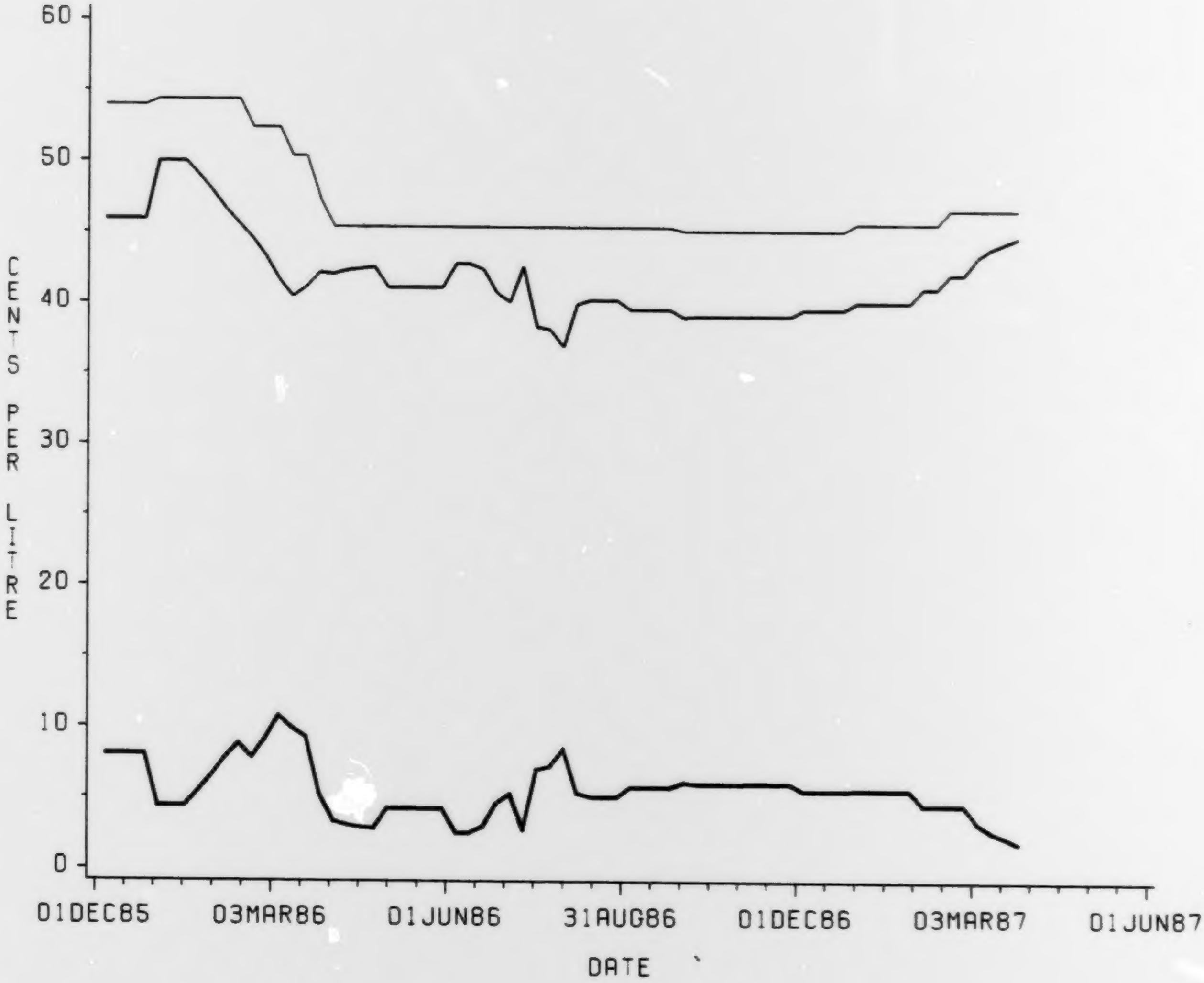
–REMARKS–

The margin was consistently higher for a Winnipeg reseller (10.94 c/l on average) compared to that of a Toronto reseller. Most of the difference is due to the higher retail price since, as Figure 29 shows, Grand Forks and Buffalo racks were similar during this period

Figure 50

GASOLINE PRICES UNDER THE RECOMMENDED REGIME

In Cdn cents/litre for Self-serve Regular Leaded.
The Price Under the Recommended Regime (medium line) has been defined as the lowest wholesale price from either Grand Forks, or Wpg racks or Prairie realized wholesale prices, plus taxes and a 5 c/l retailer margin; a 2 c/l for transport/storage is added to GF. Thin line=Wpg Retail; Medium line=Price Under Recommended Regime Thick line=Excess of Actual Price over that resulting from recomms.



-REMARKS-

On average, the price under the recommended regime is 5.51 c/l lower if gas is bought is from the cheapest source; 4.73 c/l if the purchasing is at realized prices of Prairie refiners; 3.94 c/l if gas is bought from Grand Forks, and 2.30 c/l from the rack. Note:savings from the recommendations are 2 c/l even in March 1987, when past price and cost relations have been restored. This reveals a situation of ongoing lack of competition, beyond that of not passing reductions in crude costs to retail prices fully and promptly.